

Superfund Records Center

SITE: Mottolo Pig Farm

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**U.S. ENVIRONMENTAL PROTECTION
AGENCY
REGION I – NEW ENGLAND**

RECORD OF DECISION AMENDMENT

**Mottolo Pig Farm Superfund Site
Raymond, NH**

SEPTEMBER 2010



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RECORD OF DECISION AMENDMENT

PART 1: DECLARATION

**Mottolo Pig Farm Superfund Site
Raymond, NH**

SEPTEMBER 2010

**MOTTOLO PIG FARM SUPERFUND SITE – RECORD OF DECISION AMENDMENT
PART 1: DECLARATION**

A. SITE NAME AND LOCATION

**Mottolo Pig Farm Superfund Site
Raymond, New Hampshire
EPA Site I.D. No. NHD980503361**

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents an amendment to the selected remedial action for the Mottolo Pig Farm Superfund Site (the Site) in Raymond, New Hampshire, which was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC § 9601 et seq., and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as amended, 40 CFR Part 300. The Director of the Office of Site Remediation and Restoration (OSRR) has been delegated the authority to approve this Record of Decision Amendment.

Under Section 117 of CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300.435(c)(2)(ii), EPA can propose an amendment to the Record of Decision (ROD) if the differences in the remedial or enforcement action, settlement, or consent decree fundamentally alter the basic features of the selected remedy with respect to scope, performance, or cost. An Amendment to the September 1991 ROD for the Site is necessary because a fundamental change is needed to supplement the actions taken to address groundwater in the 1991 ROD selected remedy. This ROD Amendment will become a part of the Administrative Record (per 40 CFR Part 300.825(a)(2)).

This decision was based on the Administrative Record, which has been developed in accordance with Section 113(k) of CERCLA, and which is available for review at the Dudley-Tucker Public Library, Raymond, New Hampshire and at the United States Environmental Protection Agency (EPA), Region 1, Office of Site Remediation and Restoration (OSRR) Records Center in Boston, Massachusetts.

The State of New Hampshire concurs with the selected remedy, as described in Section E of this Declaration and in further detail in Part 2: The Decision Summary attached hereto.

C. RATIONALE FOR AMENDMENT

The 1991 ROD selected natural attenuation of groundwater as a component of the overall remedy at the Site. Contaminated groundwater has subsequently migrated from the Mottolo property into nearby residential wells. This ROD Amendment supplements the 1991 ROD by adding an extension of the Town of Raymond public water supply main approximately two miles to provide public water to approximately 25 residences currently impacted or hydraulically influenced by contaminants on or migrating from the Site, as depicted on Figure 1. This ROD Amendment is based on sampling results obtained since the time of the 1991 ROD and new information obtained from studies conducted at and around the Site in 2009-2010.

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The 1991 ROD generally included four major components:

1. installation of a groundwater interceptor trench upgradient of the former drum disposal area to lower the shallow water table and reduce groundwater flow into the area targeted for cleanup;
2. installation of a soil vapor extraction system (VES) to remove VOCs from the contaminated soil in the former drum disposal area and an area identified as the southern boundary area;
3. natural attenuation and environmental monitoring of the groundwater; and
4. implementation of institutional controls to ensure that no activities occurred at the Site or in close proximity to the Site which would either affect implementation of the cleanup or cause exposures to contaminated groundwater until groundwater cleanup levels were attained.

The first two components of the selected remedy in the 1991 ROD (i.e., groundwater interceptor trench and VES) were successfully implemented and equipment was later removed from the Site in 2001. In 2003, the State of New Hampshire, through the New Hampshire Department of Environmental Services (NHDES), assumed the lead for long-term operation and maintenance at the Site, including long-term monitoring of groundwater.

Since the ROD was issued in 1991, land use in the vicinity of the Mottolo property has changed significantly. A number of residential properties now surround the Mottolo property and all residential properties currently use individual wells to meet all of their water needs. During the summer of 2009, NHDES performed expanded groundwater sampling to ensure that Site-related groundwater contamination was not adversely impacting nearby residential wells. NHDES initially sampled 34 residential wells surrounding the Site and found trichloroethylene (TCE) in four residential wells and arsenic in 12 residential wells that exceeded drinking water standards, primarily in homes located west of the Site. NHDES immediately provided all affected homes with either bottled water and/or individual water treatment systems.

In the fall of 2009, GZA GeoEnvironmental, Inc. (GZA) was contracted by NHDES using EPA funds to perform additional data collection activities to further refine EPA's and the State's understanding of the impact of groundwater contamination on residential wells near the Mottolo property. GZA performed the installation of deep bedrock monitoring wells, geophysical logging of the new deep bedrock wells, sampling of numerous residential and Site wells, geophysical logging of several residential wells, depth interval sampling of a contaminated residential well, measuring of deep bedrock groundwater levels in Site and residential wells, depth interval sampling of the Site deep bedrock wells, and evaluation of the collected data. GZA issued a draft report in March 2010 that summarized these investigation activities. In addition, an aquifer pumping test was conducted in June 2010 to better define the area that could be impacted by Site-related contaminated groundwater.

Based upon these investigations, EPA and NHDES have determined that groundwater is influenced by residential well pumping in the vicinity of the Mottolo property, particularly to the west and south. As a result, arsenic and TCE are being detected in some residential wells on Blueberry Hill Road, Windmere Drive and Strawberry Lane; in some cases, these contaminants have been detected above Federal and State drinking water standards. Increases in contaminant

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concentrations in those wells where contamination has been detected is likely to occur. Installation of new wells could also result in contamination spreading to other wells over time.

As a result, additional measures are needed to prevent exposure to contaminated drinking water and to prevent the further migration of contaminated groundwater in order to protect human health. A Focused Feasibility Study (FFS) was conducted that evaluated the current nature and extent of groundwater contamination, evaluated potential human health risks, and developed a range of remedial alternatives to address contaminated groundwater. EPA chose the selected remedy (Alternative GW-2; Extension of the Public Water Supply), described in this ROD Amendment based on the evaluation conducted in the FFS.

D. ASSESSMENT OF THE SITE

The response action selected in this ROD Amendment is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

E. DESCRIPTION OF THE ROD AS AMENDED

The 1991 ROD selected natural attenuation to address contaminated groundwater at the Site in addition to institutional controls and environmental monitoring of the groundwater. This ROD Amendment will supplement the 1991 ROD selected remedy for groundwater by extending the Town of Raymond public water supply to approximately 25 residences surrounding the Site and providing for additional institutional controls and monitoring. The Amended Remedy components are:

- Extension of Public Water Supply. The selected Amended Remedy involves the extension of the existing, 12-inch public water supply main in Raymond approximately 2 miles to provide drinking water to approximately 25 residences in Area 1, as depicted on Figure 1. These residences will be completely disconnected from their existing private wells and the wells will be either converted to monitoring wells or decommissioned following NHDES guidelines.
- Groundwater monitoring. A long-term groundwater monitoring program will be developed during the remedial design phase. The objectives of the monitoring program will be to monitor groundwater levels and groundwater quality in residential areas to assess whether migration of the contaminated groundwater will change once the homes in Area 1 are placed on the public water supply system and to confirm that other residential wells are not at risk given the changes to groundwater hydrology. If Site-related contaminated groundwater is detected in residential wells outside of Area 1, these homes will be required to connect to the public water supply system.
- Institutional Controls. Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells which may be pumped for any purpose (e.g., drinking water). “New wells” shall include all wells not in full operation (i.e., connected to existing residential dwellings and currently pumping groundwater for domestic use) at the time this ROD Amendment is issued. These limited areas will

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include Area 1 and any other areas beyond Area 1 where such groundwater pumping has the potential to hydraulically influence the movement of groundwater contamination from the Site, may alter the natural attenuation conditions on the Site and/or impact the remedy selected in the 1991 ROD. Institutional controls could be in the form of local ordinances and/or any other form of institutional control (e.g., deed restrictions, groundwater management zone) that is effective and protective. Significant new groundwater use in some areas near the Site has the potential of altering the groundwater and contaminant migration in the Site area and the potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to a hydraulic inter-connection to the contamination on the Site. In the areas where new wells are prohibited, parties must connect to the public water supply.

- Five Year Review. The Amended Remedy will use the 5-Year Review Study process to track the progress of meeting the remedial action objectives and to determine when remediation has been completed.

This ROD Amendment is a fundamental change because it supplements the existing natural attenuation groundwater remedy at the Site by requiring an extension of the Town of Raymond public water supply main approximately two miles to provide alternate water to approximately 25 residences. It also adds requirements for institutional controls and monitoring beyond those selected in the 1991 ROD.

F. STATUTORY DETERMINATIONS

Extension of the Public Water Supply will be protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate, is cost effective, and uses permanent solutions and alternative treatment technologies to the maximum extent practicable.

Extension of the Public Water Supply will provide a high degree of overall protection, will be effective in the long-term, and will be permanent by providing a source of clean water to the affected residences.

Extension of the Public Water Supply does not satisfy the statutory preference for treatment as a principal element of the remedy for groundwater. However the 1991 ROD did satisfy this statutory preference for treatment by requiring treatment of the contaminated soil.

Based on the assessment of the trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost, EPA finds that the selected remedy provides the best balance of trade-offs between the alternatives evaluated in the FFS. In balancing these factors, EPA has also considered the strong support of the community and the State for the selected remedy.

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a review of the Site remedy will continue to

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be conducted every five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

G. AMENDED ROD DATA CERTIFICATION CHECKLIST

The following information and relevant updates are included in the Decision Summary section of this Record of Decision Amendment:

1. Key factors that led to amending the original 1991 ROD
2. Remedial Action Objectives and cleanup criteria
3. Chemicals of concern (COCs) and their respective concentrations
4. Human health risk represented by the COCs
5. Cleanup levels established for COCs and the bases for the levels
6. Amended Remedy components
7. Estimated capital, operation and maintenance (O&M), and total present worth costs

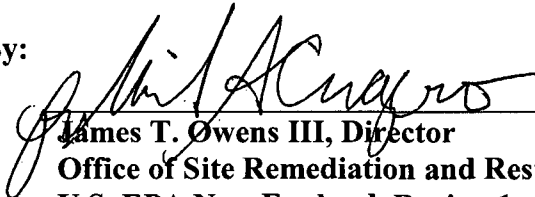
Additional information can be found in the Administrative Record for the Site and this ROD Amendment.

H. AUTHORIZING SIGNATURES

The selected remedy documented in this ROD Amendment will supplement the 1991 ROD selected remedy for groundwater at the Mottolo Pig Farm Superfund Site in Raymond, New Hampshire. This remedy was selected by the U.S. EPA with concurrence of the New Hampshire Department of Environmental Services.

U.S. Environmental Protection Agency

By:



**James T. Owens III, Director
Office of Site Remediation and Restoration
U.S. EPA New England, Region 1**

Date:

9/22/2010

RECORD OF DECISION AMENDMENT

PART 2: The Decision Summary

**Mottolo Pig Farm Superfund Site
Raymond, NH**

SEPTEMBER 2010

Mottolo Record of Decision Amendment

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PART 2: THE DECISION SUMMARY**

A. INTRODUCTION TO THE SITE AND STATEMENT OF PURPOSE

1. **SITE NAME:** Mottolo Pig Farm Superfund Site
Raymond, New Hampshire
EPA Site I.D. No. NHD980503361

2. **SITE LOCATION:**

The Mottolo Pig Farm Superfund Site (the Site) is located on Blueberry Hill Road in southeastern Raymond, New Hampshire, approximately 2 ½ miles from the intersection of state routes 102 and 107 (see Figure 2). The Site, formerly used as a pig farm, is approximately 3 miles south of the Town of Raymond's center and is bounded on all sides by rural residential neighborhoods. The nearest residence is approximately 600 feet to the west, and all residences surrounding the Mottolo property are currently serviced by individual water supply wells.

The Site is located within the Exeter River drainage basin. The Exeter River is located approximately 2,000 feet northwest of the Site at its closest point. Based upon topographic and hydrologic information, regional surface water and groundwater discharges to the Exeter River.

More complete descriptions of the Site may be found in Section 1 of the Remedial Investigation Report (Balsam, 1990) and Section 1.2 of the Focused Feasibility Study (GZA, 2010a).

3. **LEAD AND SUPPORT AGENCIES:**

Lead Agency: U. S. Environmental Protection Agency-Region 1
Office of Site Remediation and Restoration

Contacts: Michael Jasinski
Chief, NH/RI Superfund Section
(617) 918-1352

Support Agency: New Hampshire Department of Environmental Services (NHDES)
Waste Management Division

Contact: Andrew ("Drew") Hoffman, P.E.
Project Manager
Hazardous Waste Remediation Bureau
(603) 271-6778

4. **STATEMENT OF PURPOSE:**

An Amendment to the March 29, 1991 Record Of Decision (1991 ROD) is necessary because a fundamental change to the contaminated groundwater component of the selected remedy is needed to supplement the existing natural attenuation remedy by extending the Town of Raymond public water supply to impacted residences near the Mottolo property. This Amendment documents the basis for this fundamental change. This ROD Amendment is issued

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in accordance with Section 117 of CERCLA and 40 CFR 300.435(c)(2)(ii) of the National Contingency Plan.

5. AVAILABILITY OF DOCUMENTS:

This ROD Amendment and supporting documentation will become part of the Administrative Record for the Site in accordance with 40 CFR 300.825(a)(2). Information pertinent to EPA's decision-making process in publishing this ROD Amendment is available for public viewing at the Site information repositories at the following locations:

U. S. EPA Records Center
5 Post Office Square, Suite 100
Mail Code: OSRR02-3
Boston, MA 02109-3912
(617) 918-1440
Hours: 9:00 a.m.-5:00 p.m.
Monday through Friday

Dudley-Tucker Library
6 Epping Street
P.O. Box 909
Raymond, NH 03077-0909
(603) 895-2633

Additional information is also available for review on-line at:
www.epa.gov/region1/superfund/sites/mottolo

and on the NHDES OneStop website at:
http://des.nh.gov/organization/divisions/waste/hwrb/fss/superfund/mottolo_pig_farm.htm

B. SITE DESCRIPTION, HISTORY AND CONTAMINATION, AND ORIGINAL (1991) SELECTED REMEDY

1. SITE DESCRIPTION:

The Site includes approximately 50 acres of primarily undeveloped, wooded land (referred to as the Mottolo property) divided roughly in half by a brook (Brook A), which originates beyond the southern property boundary and flows north through the property, eventually discharging to the Exeter River. Approximately two acres in the southwest portion of the Mottolo property remain cleared near the former piggery buildings and former drum disposal area. Site structures in and near the cleared area include two concrete pads for the former piggery buildings, a shed housing a boiler and a former well. The cleared area is divided by an ephemeral stream located in a drainage swale which flows from west to east, discharging to Brook A.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

2. SITE HISTORY AND CONTAMINATION:

Prior to disposal of hazardous substances, the Site was the location of a piggery operation. From 1975 through 1979, the owner of the property disposed of approximately 1,600 55-gallon drums and 5-gallon pails containing wastes into an approximately ¼-acre depression located immediately north of the main piggery buildings (former drum disposal area). After dumping the containers from the back of a truck, a bulldozer was used to cover them with fill. The potential for contamination at the Site became a concern, and studies were commenced in 1979 by the New Hampshire Water Supply and Pollution Control Commission (now the New Hampshire Department of Environmental Services (NHDES)) which brought the Site to the attention of EPA.

Between November 1980 and January 1982, EPA performed a removal action including excavation, staging, testing, on-site storage, and off-site disposal of 1,600 containers of waste, and an estimated 160 tons of contaminated soil from the former drum disposal area. The Site was subsequently added to the National Priorities List in July 1987.

A Remedial Investigation/Feasibility Study (RI/FS) was completed in March 1991. A number of different contaminants were identified in groundwater, surface water, sediment, and soil. The RI/FS found that exposure to on-site soils, air, sediments, and surface waters did not pose an unacceptable environmental or human health risk. However, a potential risk from drinking on-site groundwater was determined to be above acceptable risk levels. Although soil did not present a direct risk to human health, contaminants in soil did present a risk to groundwater should contaminants migrate from the soil into groundwater. Based on the removal action and RI/FS, the components of the remedy selected by EPA, and concurred on by NHDES, as described in the 1991 ROD, included the following:

- Implementation of institutional controls, to ensure that no activities take place at the Site or in proximity to the Site which would either affect implementation of the selected remedy or cause exposures to hazardous substances;
- Installation of a groundwater interceptor trench to dewater the former drum disposal area soils, two temporary soil caps over the former drum disposal area, and installation of a soil-vapor extraction system to remove VOC contaminants from the soils;
- Natural attenuation of groundwater; and
- Long-term sampling and evaluation of groundwater to assess compliance with cleanup levels through natural attenuation.

A more detailed description of the remedy selected in the 1991 ROD is included in Section B.3 below.

The groundwater interceptor trench was designed and installed in 1992 to lower the shallow water table near, and reduce groundwater flow within, the former drum disposal area. The in-situ vacuum extraction system (VES) was designed and built in 1993 to treat soil contamination within the former drum disposal area. After three years of operation, the VES system was shut down in the fall of 1996, and the soil cleanup deemed complete by EPA, in consultation with

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

NHDES. In the spring of 1997, the VES cap was removed and the area was graded and seeded. The VES closeout report was completed in 1997.

In 2000, EPA decommissioned a number of groundwater monitoring wells, removed the chain link fence (approximately 1,300 linear feet) surrounding the former piggery buildings and drum disposal area, installed a new entry gate and modified the remaining wells. In the fall of 2001, the final components of the VES were removed, including the vacuum extraction wells and groundwater interceptor trench. In 2003, the State of New Hampshire, through NHDES, assumed the lead for long-term operation and maintenance requirements at the Site, including long-term monitoring of groundwater.

With respect to institutional controls, the State of New Hampshire brought a lawsuit against Richard Mottolo in 2005 seeking to compel Mr. Mottolo to secure and comply with a Groundwater Management permit to restrict the use of groundwater on the Mottolo property (Lot 087 on Town of Raymond Tax Map 5). NHDES issued the permit in 2008 but it was not recorded and did not address the use of groundwater outside of the Mottolo property. The lawsuit regarding the permit was resolved in a Consent Decree approved by the State of New Hampshire Merrimack County Superior Court in 2010. As a result of this settlement, the Mottolo property was conveyed to the State of New Hampshire and the Groundwater Management permit was terminated.

Natural attenuation sampling began in 1993. Between 1993 and 1998, sampling varied from quarterly to three times a year, and then to semi-annual monitoring events. Annual sampling began in 1999 and consisted of sampling groundwater from the network of on-Site monitoring wells.

The residential well sampling program was initiated in 2003 by NHDES based upon concerns regarding the residential development to the south of the Site on Strawberry Lane. Shortly after this sampling began, EPA issued its second 5-Year Review Report which evaluated the performance and protectiveness of the remedy implemented at the Site. This 2003 5-Year Review Report noted that although sampling indicated no exceedances of drinking water standards in residential wells, the potential existed for problems in the future from increased residential development coupled with the use of existing private wells around the Mottolo property. In August 2008, EPA issued its third 5-Year Review Report. This 5-Year Review Report noted the completion of an additional residential development west of the Site and potential impacts on drinking water in the area. As a result of the findings and recommendations in EPA's third 5-Year Review Report, NHDES expanded the residential well sampling program in 2009.

The Spring 2009 expanded residential well sampling identified trichloroethylene (TCE) contamination and elevated arsenic levels in a number of residential wells located west of the Mottolo property on Windmere Drive and Blueberry Hill Road. Following this expanded residential well sampling program, NHDES requested Cooperative Agreement funding from EPA to evaluate the potential off-Site migration issues and to determine if modifications to the

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

Site remedy were required to assure that the Site remedy remained protective of human health and the environment.

In the fall of 2009, NHDES contracted with GZA GeoEnvironmental, Inc. (GZA) to perform supplemental groundwater investigations both on and surrounding the Site. GZA conducted or managed groundwater sampling studies, geophysical logging of bedrock wells, surficial geophysical surveys, bedrock well installations, and an aquifer pumping test during the 2009 and 2010 timeframe. The results of these investigations are documented in the report entitled "Preliminary Interpretation of Volatile Organic Compounds (VOC), Arsenic, and Uranium 2009 Data in Residential and Monitoring Wells" (March 2010 Preliminary Data Report) (GZA, 2010b) and the Focused Feasibility Study (FFS) (GZA, 2010a).

The March 2010 Preliminary Data Report, as well as field investigations performed at and around the Site from 2009-2010, generally indicate that groundwater contamination exceeding the TCE drinking water standard of 5 ppb currently extends over an area of approximately 30 acres (which is generally bounded by Brook A on the east, the Motollo property boundary to the north and south, and several residential properties to the west) (see Figures 3 and 6). In addition, arsenic exceedances of the drinking water standard of 10 ppb were also found at the Site and in several residential wells generally to the west and south of the Site (see Figures 4 and 7). Finally, the aquifer pumping test performed in June 2010 indicated that residential wells with Site-related contamination also responded to the weeklong pumping on the Site (i.e., significant drawdown was measured). Appendix B of the FFS integrates the findings of the geophysics and hydraulic testing performed at and around the Site into an updated hydrogeological conceptual model for the Site.

As a result of these findings, EPA determined that a FFS (GZA, 2010a) should be conducted to evaluate remedial alternatives to address the Site-related contamination found in nearby residential wells. The FFS evaluated three (3) remedial alternatives in detail to address drinking water in residential wells near the Site. The alternatives evaluated in detail in the FFS are discussed in Section D.

3. ORIGINAL (1991) ROD SELECTED REMEDY:

CERCLA and the NCP set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, the 1991 Feasibility Study (FS) developed a range of alternatives for the Site that were also described in the 1991 ROD. With respect to source control, the FS developed a range of alternatives in which treatment that reduces the toxicity, mobility, or volume of the hazardous substances is a principal element. These included alternatives that employ treatment to address principal threats, alternatives that involve little or no treatment but provide protection through engineering or institutional controls, and a no action alternative. With respect to management of migration, the FS developed a limited number of remedial alternatives that attained site specific remediation levels within different timeframes using different technologies, as well as a no action alternative.

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The 1991 ROD specified a source control component and a management of migration component to address the entire Site. As noted previously, the source control component of the 1991 selected remedy has been completed. The 1991 ROD specified the following response actions:

Source Control Component:

- Installation and operation of a vacuum extraction system (VES) to remove air and vapor phase VOCs present in the soil pore space (soil gas) in the former drum disposal and southern boundary areas.
- Installation of a groundwater interceptor trench upgradient of the former disposal area to lower the water table to facilitate VES treatment of contaminated soil.
- Sealing of the ground surface in both the former drum disposal area and the southern boundary area with temporary caps consisting of four or six-mil thick visqueen sheeting covered with a six inch layer of seeded loam to improve the operational efficiency of the VES by limiting short-circuit air flow from the ground surface to the extraction wells and significantly reducing precipitation infiltration.

Management of Migration Component:

- Natural attenuation of contaminated groundwater to lower contaminant concentrations through physical, chemical and biological processes until groundwater cleanup levels are met. The interim groundwater cleanup levels from the 1991 ROD are included in Table 1 (see Appendix A) attached to this ROD Amendment.

Additional Measures:

- Installation of a security fence consisting of approximately 1,300 linear feet of galvanized chain link fence (ten feet high) to control access to the former drum disposal and southern boundary areas and to provide security for the VES.
- Groundwater and surface water monitoring to assess the effectiveness of remediation and to confirm that contaminant concentrations in groundwater attain cleanup levels.
- Implementation of institutional controls to restrict the use of contaminated groundwater and prevent disturbance of ongoing remedial actions. The objectives of the institutional controls were to ensure that no activities take place at the Site or in proximity to the Site which would either affect implementation of the selected remedy or cause exposures to hazardous substances.

A more detailed description of the 1991 ROD components can be found in Section X of the 1991 ROD located in the Administrative Record.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

C. BASIS FOR THE ROD AMENDMENT

An Amendment to the March 29, 1991 ROD is necessary because a fundamental change is needed to supplement the existing natural attenuation remedy by extending the public water supply to impacted residences near the Mottolo property. This ROD Amendment documents the basis for this fundamental change. Additional institutional controls and environmental monitoring requirements are also included in this ROD Amendment.

Since the ROD was issued in 1991, land use in the vicinity of the Mottolo property has changed significantly. A number of residential properties now surround the Mottolo property and all residential properties currently use individual wells to meet all of their water needs. EPA and NHDES have determined that groundwater is very likely influenced by residential well pumping in the vicinity of the Mottolo property, particularly to the west and south. As a result, arsenic and TCE have been and continue to be detected in some residential wells on Blueberry Hill Road, Windmere Drive and Strawberry Lane; in some cases, these contaminants have been detected above Federal and State drinking water standards. Increases in contaminant concentrations in those wells where contamination has been detected is likely to occur. Installation and pumping of new wells in the area could also result in contamination spreading to other wells over time. As a result, additional measures are needed to prevent exposure to contaminated drinking water and to prevent the further migration of contaminated groundwater in order to protect human health.

The information collected which supports this fundamental change to supplement the management of migration component of the 1991 selected remedy is summarized as follows and discussed in more detail below:

- The nature and extent of groundwater contamination has been updated, including information relating to residential well contamination near the Site;
- Risk has been evaluated in the context of this updated information regarding the nature and extent of groundwater contamination; and
- New alternatives to address contaminated groundwater in residential wells have been evaluated in a FFS.

1. UPDATED NATURE AND EXTENT OF CONTAMINATION:

A detailed description of Site conditions at the time of the 1991 ROD can be found in Section V of the 1991 ROD as well as Sections 3.0, 4.0 and 5.0 of the 1991 RI. The following sections of this ROD Amendment provide a brief, updated description of the nature and extent of contamination that currently exists on and surrounding the Site.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

a. Soil

Soil screening analysis of numerous soil boring samples obtained by EPA from above the bedrock within the former drum disposal area in 2009 showed that the VES successfully treated the soil contamination in this area of the Site. A limited amount of contamination in one soil boring location (mostly semi-volatile petroleum chemicals but also some TCE above the 1991 ROD cleanup level) was detected that will either ultimately degrade through natural attenuation processes over time or be the subject of a future decision document.

b. Groundwater

In August 2009 and May 2010, GZA performed on-Site field sampling. Multi-media sampling included Site overburden and shallow bedrock (less than 45-foot depth) groundwater monitoring wells. Prior to sampling, GZA conducted a comprehensive round of groundwater level measurements from on-Site overburden and shallow bedrock monitoring wells to assess groundwater flow direction. The results of the May 2010 on-Site sampling effort are included in Appendix D of the FFS while the results from the August 2009 sampling are provided in the March 2010 Preliminary Data Report.

i. Site Monitoring Wells

Figure 5 shows the groundwater monitoring locations in the Site area. Prior to 2010, there were 11 overburden wells (ten overburden wells on the Mottolo property; one overburden well on Strawberry Lane) and 12 shallow bedrock wells (ten shallow bedrock wells on the Mottolo property; two shallow bedrock wells on Strawberry Lane). During 2010, one additional overburden well (MOT_MW-101S) and four additional deep bedrock wells (MOT_MW100D; MOT_MW-101D; MOT_MW-102D; and MOT_MW-103D) were installed on the Mottolo property. Groundwater samples collected in 2009-2010 were analyzed for VOCs (including TCE), 1,4-Dioxane, arsenic, iron, ammonia, alkalinity, chloride, sulfate, total organic carbon, carbon dioxide, methane, ethane, volatile fatty acids, ferrous iron, and nitrate. Groundwater quality parameters such as turbidity, pH, dissolved oxygen (DO), temperature, specific conductance, and oxidation/reduction potential were measured in the field.

A. VOCs

Overburden groundwater generally flows toward Brook A from the former drum disposal area on the Mottolo property. Overburden and shallow bedrock TCE groundwater concentrations near the former drum disposal area and former piggery operation area are currently below detection limits (less than 2 ppb) (see Figure 6). In addition, TCE concentrations detected in all other on-Site overburden and shallow bedrock groundwater monitoring wells in August 2009 have decreased since the RI was performed. It is anticipated that TCE concentrations in the overburden and shallow groundwater will continue to decrease on the Mottolo property over time to acceptable levels; however, TCE concentrations are expected to remain above the drinking water standard in the foreseeable future.

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Investigations (including the June 2010 aquifer pumping test on the Site) have also confirmed that deep bedrock groundwater is currently being drawn through bedrock fractures to the west by the pumping of residential wells. The current TCE contamination in the deep bedrock groundwater (maximum 117 ppb in well MOT_MW-103D) appears to be responsible for the TCE contamination observed in the residential wells near the Site (see discussion below).

B. Arsenic

Overburden and shallow bedrock arsenic groundwater concentrations near the former drum disposal area and former piggery operation area are generally all below detection limits (less than 1 ppb) (see Figure 7). In addition, the August 2009 data for all other overburden and shallow bedrock on-site monitoring wells shows a continuing general decreasing concentration trend for arsenic in groundwater. It is anticipated that arsenic concentrations in groundwater will continue to decrease on the Mottolo property over time to acceptable levels; however, arsenic concentrations are expected to remain above the drinking water standard in the foreseeable future. As confirmed through the October 2009 soil screening effort on the Site, arsenic observed in the Site groundwater is not likely directly from disposal activities on the Mottolo property, but rather from naturally occurring arsenic deposits in the bedrock that are released due to altered geochemical conditions caused by historical waste disposal practices.

ii. Residential Area Wells

NHDES has been sampling residential wells near the Site on a quarterly basis since 2008. The sampling program was considerably expanded in 2009-2010. The results of the residential well sampling performed by NHDES can be found in Appendix E of the FFS and shown on Figures 3 and 4 herein.

A. VOCs

TCE and cis-DCE (a breakdown product from the biodegradation of TCE) are observed in a few of the residential wells in the Windmere Drive and upper end of Blueberry Hill Road residential areas. Observed concentrations of TCE have been either below the drinking water standard of 5 ppb or just above the drinking water standard (7.4 ppb of TCE is the maximum concentration detected). In the Strawberry Lane area, previous low levels (< 5 ppb) of TCE that were detected back in 2003 are now below detection limits (<0.5 ppb).

B. Arsenic

The elevated concentrations of arsenic in some residential wells west and south of the Site appear to be the result of arsenic that is naturally occurring in the bedrock formation, but which has been and continues to be liberated from the bedrock into the groundwater due to altered geochemical conditions in the groundwater as a result of past waste disposal practices on the Mottolo property. The detection of TCE in some residential wells west of the Mottolo property strongly suggests that Site groundwater that has migrated into this area has influenced the

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groundwater geochemistry, thereby enhancing the release of arsenic from the bedrock formation into the groundwater in this area.

C. Changes in VOC Concentrations Since 2003

Figure 8 depicts the historical changes in residential well groundwater concentrations for TCE over time from select wells west and south of the Site. In 2003, TCE was detected in residential wells located on Strawberry Lane (to the south of the Site) at very low levels (below drinking water standards). The Windmere Drive residential wells were installed in the 2005 – 2006 timeframe. Once the Windmere Drive residential wells were in full operation, it appears that the TCE contamination on Strawberry Lane dramatically decreased and TCE contamination was subsequently detected to the west of the Mottolo property. Based upon the changes observed over time, the conclusion reached is that pumping of the residential wells have previously and are currently influencing where the TCE-contaminated bedrock groundwater migrates in the area surrounding the Mottolo property.

c. Surface Water / Sediment

Multi-media sampling at the Site also included surface water and sediment in Brook A located on the Mottolo property. The brook surface water samples were analyzed for VOCs, arsenic, hardness, and iron. The brook sediment samples were analyzed for arsenic and iron. Surface water quality parameters such as turbidity, pH, DO, temperature, specific conductance, and oxidation / reduction potential were also measured in the field. Site contamination was not detected in either the surface water or sediment of Brook A.

The results of the May 2010 surface water/sediment sampling effort are located in Appendix D of the FFS.

2. RISK ANALYSIS:

The 1991 ROD presented a detailed summary of Site risks based on the exposure pathways considered at that time. Changes in land use surrounding the Mottolo property have resulted in a change in the potential for exposure to Site-related contaminants at levels that pose a health concern. Since risks from residential exposure to groundwater used as drinking water provides the basis for action under this ROD Amendment, the following discussion focuses on the evaluation of these risks.

a. Human Health Risks

A baseline human health risk assessment was prepared as part of the 1991 RI and included an evaluation of potential cancer risks and non-cancer health effects as a result of future exposure to Site contaminants in groundwater. Exposure to contaminants in groundwater via residential use included ingestion, dermal absorption, and inhalation. No exposure to groundwater was known to be occurring at the time of the 1991 risk assessment.

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The 1991 baseline risk assessment concluded that the risk posed by the future potential residential use of groundwater from wells installed within the former drum disposal area could exceed the acceptable cancer risk range; that is, the incremental increase in the probability that an individual will develop cancer during his or her lifetime due to Site-specific exposure, exceeded the range of 1 in ten thousand (1 in 10,000) to 1 in a million (1 in 1,000,000). "Incremental" refers to the risk from site-specific exposure above the background cancer risk for the general population. The principal contributors to this risk included arsenic, vinyl chloride and trichloroethylene. Interim groundwater cleanup levels were established in the 1991 ROD for these contaminants based upon Federal and State drinking water standards established at that time (see Table 1 in Appendix A). The drinking water standard for arsenic in 1991 was 50 ppb; this standard was subsequently revised downward to 10 ppb.

The 1991 baseline risk assessment also included an assessment of non-cancer health effects. Potential average daily exposures from residential water use were compared to established Reference Doses available at that time. This comparison is referred to as the Hazard Index (HI). A HI of unity ($HI=1$) is defined as the level below which adverse health effects are not expected. The HI exceeded 1 for 1,2 dichloroethylene and tetrahydrofuran. Interim groundwater cleanup levels were established in the 1991 ROD for these contaminants based on Federal and State drinking water standards and risk-based calculations, respectively (see Table 1 in Appendix A). There are no exceedances of these non-cancer cleanup levels noted in the recent residential well sampling undertaken around the Site.

As discussed above, changes in land use have occurred since the 1991 Remedial Investigation. Specifically, land use surrounding portions of the Site has changed from undeveloped to residential use. Residential use of contaminated groundwater is now occurring and residents may be exposed to contaminants through ingestion, dermal absorption, and inhalation at levels that exceed drinking water standards which may pose a potential health concern. Contaminants that exceed drinking water standards/cleanup goals include arsenic and TCE.

b. Ecological Risks

With respect to potential environmental impacts posed by Site contamination, the ecological risk assessment performed during the RI concluded that neither current nor future significant adverse impacts were identified. No further evaluation of ecological risks has been conducted for this ROD Amendment.

D. DESCRIPTION OF CLEANUP ALTERNATIVES CONSIDERED

Since the 1991 ROD was issued, land use in the vicinity of the Mottolo property has changed significantly. A number of new residential properties now surround the Mottolo property and all residential properties currently use individual wells to meet all of their water needs. EPA and NHDES have determined that groundwater is influenced by residential well pumping in the vicinity of the Mottolo property particularly to the west and south. As a result, arsenic and TCE are being detected in some residential wells on Blueberry Hill Road, Windmere Drive and

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Strawberry Lane; in some cases, these contaminants have been detected above Federal and State drinking water standards.

In response to these recent findings, EPA prepared a FFS, with the assistance of the NHDES and their contractor, GZA, to evaluate a range of alternate water supply alternatives to address these contaminated drinking water wells. The remedial alternatives considered in detail were: No Action, Extension of the Public Water Supply, and Whole House Treatment. An alternative involving a Community Water Supply for the affected area was also evaluated but screened out in the FFS. The three (3) alternatives evaluated in detail in the FFS are further described below (GZA, 2010a):

Alternative GW-1: No Action

The No Action Alternative is required to be considered as a baseline for comparison with the other alternatives, in accordance with the NCP. The No Action Alternative does not require any additional actions be taken to address the residential wells that have been impacted by groundwater contamination from the Site. The groundwater on the Site would continue to undergo natural attenuation (i.e., dilution, natural biological and chemical degradation, adsorption, and precipitation) until cleanup goals are achieved. Future sampling of selected residential wells to monitor off-site groundwater contamination would be performed (in addition to the onsite monitoring required in the 1991 ROD). The No Action Alternative represents the minimal proposed remedial action for addressing the contamination in residential wells.

Alternative GW-2: Extension of Public Water Supply

The GW-2 Alternative would prevent exposure to contaminated drinking water by extending the existing 12-inch public water supply main along Route 102 in Raymond, New Hampshire approximately two miles to provide safe drinking water to approximately 25 residences in Area 1 (as shown on Figure 1). These residences will be completely disconnected from their existing private wells and the wells will be either converted to monitoring wells or decommissioned following NHDES guidelines.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new groundwater wells. These limited areas will include Area 1 and any other areas beyond Area 1 where such use has the potential to hydraulically influence the movement of groundwater contamination from the Site. Additional groundwater use in some areas near the Site has the potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to the interconnections of the bedrock fractures and the hydraulic connection to the contamination on the Site.

Groundwater monitoring of selected residential wells (especially in Areas 2 and 3, as shown on Figure 1) would be periodically performed (in addition to the on-Site monitoring required by the 1991 ROD) to determine whether contamination has migrated into other residential wells. If Site-related contaminants are detected in residential wells outside of Area 1, this alternative would require these homes to be connected to the public water supply system.

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The GW-2 remedial alternative will also use the 5-Year Review Study process to track the progress of meeting the remedial action objectives and to determine when remediation has been completed.

Alternative GW-3: Whole House Treatment

This alternative involves the installation and maintenance of individual whole house treatment systems to treat all water pumped from each of the residential wells located in Area 1, as depicted on Figure 1. Each treatment system will be designed with redundant treatment units to address both the VOC contamination and arsenic contamination above drinking water standards due to Site-related conditions. The treatment systems will require periodic maintenance in order for them to remain effective in providing clean water to each residence. The influent and effluent of the treatment systems will need to be sampled at least twice annually for the first five years and annually thereafter. It is anticipated that certain components of the treatment equipment may need to be replaced approximately every ten years. Some residences may also require radon treatment and/or water softener systems and/or backwash filters (depending on influent characteristics of their well water) in order for the VOC and arsenic treatment units to operate effectively.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells where such use has the potential to hydraulically influence the movement of groundwater contamination from the Site. Additional new groundwater use in some areas near the Site has the potential of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to the interconnections of the bedrock fractures and the hydraulic connection to the contamination on the Site.

Groundwater monitoring of selected residential wells (especially in Areas 2 and 3, as shown on Figure 1) would be periodically performed (in addition to the onsite monitoring required in the 1991 ROD) to determine whether contamination has migrated into other residential wells. If Site-related contaminants are detected in residential wells outside of Area 1, these homes would be provided with whole house treatment systems.

The GW-3 remedial alternative will also use the 5-Year Review Study process to track the progress of meeting the remedial action objectives and to determine when remediation has been completed.

E. EVALUATION OF CLEANUP ALTERNATIVES

Section 121(b)(1) of CERCLA presents several factors that at a minimum EPA is required to consider in its assessment of remedial options. Building upon these specific statutory mandates, the NCP articulates nine evaluation criteria to be used in assessing the individual remedial alternatives. The nine criteria are summarized as follows:

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1. **THRESHOLD CRITERIA:**

The two threshold criteria described below must be met in order for the alternatives to be eligible for selection in accordance with the NCP:

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.
2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether or not a remedy will meet all Federal environmental and more stringent State environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked.

2. **PRIMARY BALANCING CRITERIA:**

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria:

3. **Long-term effectiveness and permanence** addresses the criteria that are utilized to assess alternatives for the long-term effectiveness and permanence they afford, along with the degree of certainty that they will prove successful.
4. **Reduction of toxicity, mobility, or volume through treatment** addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the site.
5. **Short term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
6. **Implementability** addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
7. **Cost** includes estimated capital and Operation Maintenance (O&M) costs, as well as present value costs.

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3. MODIFYING CRITERIA:

The modifying criteria are used as the final evaluation of remedial alternatives, generally after EPA has received public comment on the RI/FS and Proposed Plan:

8. **State acceptance** addresses the State's position and key concerns related to the preferred alternative and other alternatives, and the State's comments on ARARs or the proposed use of waivers.

9. **Community acceptance** addresses the public's general response to the alternatives described in the Proposed Plan and RI/FS report.

Because this is an Amendment to the 1991 ROD, only the part of the remedial action that is proposed for change and supplementation will be evaluated in this section. Those portions of the 1991 ROD Remedy which are not being changed (i.e., the natural attenuation of contaminated groundwater) remain in effect under the 1991 ROD. The source control components of the 1991 ROD have been successfully completed.

4. COMPARATIVE ANALYSIS:

The following is a summary of the comparison of each of the three (3) FFS alternatives' strengths and weaknesses with respect to the nine evaluation criteria noted above. Table 7-1 from the FFS and attached hereto in Appendix A is also provided to help summarize this comparative analysis.

Overall Protection of Human Health and the Environment

Alternative GW-1 (No Action) would be the least protective of the three alternatives. It would offer no protection to human health and the environment. Potential risks from exposure to contaminated groundwater/drinking water would remain.

Alternative GW-2 (Extension of Public Water Supply) would provide significantly greater protection than Alternative GW-1 because Raymond Town water will be provided to the approximately 25 residences located in Area 1 (see Figure 1). Institutional controls would also be implemented in limited areas to restrict/prevent the installation of any new groundwater wells which may be pumped for any purpose (e.g., drinking water) to reduce the risk of residential users being impacted by Site-related contamination. In addition, long-term groundwater monitoring would be performed to confirm that contamination has not migrated into other residential wells. The combination of implementing institutional controls to reduce the risk of potential exposure to contamination from the Site, providing municipal water to residents within Area 1, and continued monitoring of residential wells beyond Area 1 to insure no additional residential water supply wells beyond Area 1 are impacted under Alternative GW-2 (Extension of Public Water Supply) results in this alternative being highly protective of human health and the environment.

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Alternative GW-3 (Whole House Treatment Systems) would also be highly protective of human health and the environment. Similar to Alternative GW-2 (Extension of Public Water Supply), each home within Area 1 would be provided safe drinking water; however under this Alternative, safe drinking water is provided to each residence by installation and maintenance of individual whole house treatment systems. As with Alternative GW-2 (Extension of Public Water Supply), institutional controls would be implemented to restrict/prevent the installation of any new groundwater wells in a limited area to reduce the risk of new residential users being impacted by Site-related contamination. In addition, long-term groundwater monitoring would be performed to confirm that contamination has not migrated into other residential wells. The combination of implementing institutional controls to reduce the risk of potential exposure to Site-related contaminants, providing treated water to residents within Area 1 and continued monitoring of selected residential wells beyond Area 1 under Alternative GW-3 (Whole House Treatment Systems) results in this alternative being highly protective of human health and the environment.

Compliance with ARARs

Alternative GW-1 (No Action) will not meet Federal and State drinking water requirements. Alternative GW-2 (Extension of Public Water Supply) and Alternative GW-3 (Whole House Treatment Systems) will meet all ARARs. Tables 2-1 and 2-2 from the FFS and attached hereto in Appendix A show the potential chemical- and action-specific ARARs identified for these three (3) alternatives.

Long-Term Effectiveness and Permanence

The residual risk remains high under Alternative GW-1 (No Action) as there would be continued exposure to contaminated drinking water above both Federal and State standards. The magnitude of the residual risk is low under Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) as safe drinking water would be provided by either supplying public water or by treating the groundwater to Federal and State standards at each home prior to consumption.

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) rely on institutional controls to restrict/prevent the installation of any new groundwater wells which may be pumped for any purpose (e.g., drinking water) in a limited area to reduce the risk of potential exposure to Site-related contaminants. These controls are reliable if adequately monitored, maintained and, if necessary, enforced.

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) rely on monitoring to confirm that contamination has not spread to other residential wells in the area. In addition, Alternative GW-3 (Whole House Treatment Systems) relies on frequent monitoring of influent and effluent waters in/from each whole house treatment system to confirm that there is no incidental exposure to contaminants and to evaluate the need for equipment repair and/or replacement. While Alternative GW-3 (Whole House Treatment Systems) has the potential for incidental exposure to contaminated groundwater through problems with treatment components, this was considered unlikely given that contaminate

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concentrations in residential wells are relatively low, each treatment system has multiple filters to capture contamination, routine maintenance of the systems is expected to occur, annual treatment component replacement is planned, and monitoring is a very reliable means to track issues with whole house treatment systems.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Neither Alternative GW-1 (No Action) nor GW-2 (Extension of Public Water Supply) use treatment to reduce toxicity, mobility, or volume. There is some change in mobility under Alternative GW-2 (Extension of Public Water Supply) as residential wells in Area 1 will be completely decommissioned and no longer used thereby limiting further migration of contamination towards Area 1 from the Site. Alternative GW-3 (Whole House Treatment Systems) uses treatment to reduce contaminant toxicity, mobility, and volume; however, the reductions are very small.

Short-Term Effectiveness

As no active remedial action is taken under Alternative GW-1 (No Action), there are no short-term impacts to the community, workers, or the environment. No risk reduction would occur in the short term.

For Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems), safe drinking water will be provided to those residents currently impacted by Site-related contamination by the State until construction/implementation of Alternative GW-2 (Extension of Public Water Supply) or Alternative GW-3 (Whole House Treatment Systems) is complete.

Construction/implementation of Alternative GW-2 (Extension of Public Water Supply) or Alternative GW-3 (Whole House Treatment Systems) would not have any significant impacts on the local community and the environment. There will be some temporary disruption to the community along roads where the municipal water line extension will have to be laid as well as minor disruption to Area 1 residents from well decommissioning under Alternative GW-2 (Extension of Public Water Supply). Under GW-3 (Whole House Treatment Systems), minor homeowner disruptions to Area 1 residents will occur due to the installation of the individual whole house treatment systems in each home. All workers would perform all work in accordance with a site-specific health and safety plan.

It is anticipated that the time required to design/construct/implement Alternative GW-2 (Extension of Public Water Supply) will be approximately 18 to 24 months, while the time required for Alternative GW-3 (Whole House Treatment Systems) will be 12 months. These estimates are approximate depending on field conditions encountered during the water line extension work and the installation of each particular whole house treatment system.

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Implementability

Alternative GW-1 (No Action) is the easiest to implement as no activities must be undertaken.

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) are easily constructed and operated. Both Alternatives will require long-term groundwater monitoring but Alternative GW-3 will require additional monitoring of each whole house treatment system. Both the use of public water (Alternative GW-2) and whole house treatment systems (Alternative GW-3) are highly reliable technologies to address contaminants in drinking water. While Alternative GW-3 (Whole House Treatment Systems) has the potential for incidental exposure to contaminated groundwater through problems with treatment components, this is considered unlikely given that contaminate concentrations in residential wells are relatively low, each system has multiple filters to capture contamination, routine maintenance of the systems is expected to occur, annual replacement of treatment components is planned, and monitoring is a very reliable means to track issues with whole house treatment systems.

Town officials have indicated support for a water line and may be reluctant to agree to the use of whole house treatment systems for long-term groundwater use, thereby making Alternative GW-3 (Whole House Treatment Systems) more difficult to implement than Alternative GW-2 (Extension of Public Water Supply). On the other hand, Alternative GW-2 (Extension of Public Water Supply) would require homeowners to agree to pay an annual fee for public water (estimated at approximately \$440 per year).

Both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) will require coordination with property owners and appropriate federal, state, and local agencies to implement institutional controls. Once put in place, institutional controls can be fairly easily monitored. Effectiveness is dependent on enforcement. Institutional controls on some properties may be more difficult to implement under Alternative GW-3 (Whole House Treatment Systems) as there may be limited or no viable options for alternative water in some cases thereby preventing development of some properties. This is expected to be a significant implementation issue for some areas surrounding the Site.

Cost

Alternative GW-1 (No Action) 30-year present value cost (with a 7-percent discount rate) is estimated to be \$ 1,854,000.

Alternative GW-2 (Extension of Public Water Supply) 30-year present value cost (with a 7-percent discount rate) is estimated to be \$4,623,000 (Area 1 residents only).

Alternative GW-3 (Whole House Treatment Systems) 30-year present value cost (with a 7-percent discount rate) is estimated to be \$3,744,000 (Area 1 residents only).

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State/Lead Agency Acceptance

NHDES has been involved with the Site since its discovery and has been the lead agency with respect to O&M at the Site since 2003. NHDES concurred with the 1991 ROD Remedy. NHDES concurs with this ROD Amendment. See Appendix C for the State's concurrence letter.

Community Acceptance

Community acceptance is a modifying criterion that allows for final evaluation and modification of the selected remedial approach following community review. The Town of Raymond has been involved in the recent developments at the Site and has indicated its support for this ROD Amendment. Most comments received from the public indicate support for the actions required under this ROD Amendment.

The Responsiveness Summary, included as Part 3 to this ROD Amendment, provides responses to specific comments received during the 30-day public comment period (held from August 5 – September 4, 2010).

F. RATIONALE FOR REMEDY SELECTED IN THE 2010 ROD AMENDMENT

EPA has selected Alternative GW-2 (Extension of the Public Water Supply) because EPA believes it achieves the best balance among EPA's nine criteria used to evaluate various alternatives. The selected ROD Amendment remedy is protective of both human health and the environment while, at the same time, is cost effective. The selected ROD Amendment remedy provides both short and long-term protection of human health and the environment; attains Federal and State applicable or relevant and appropriate requirements (ARARs); and utilizes permanent solutions and institutional controls to prevent unacceptable exposures.

While both Alternatives GW-2 (Extension of Public Water Supply) and GW-3 (Whole House Treatment Systems) are protective of human health and the environment, comply with ARARs, and are cost-effective, Alternative GW-3 (Whole House Treatment Systems) is expected to be more difficult to implement effectively over the long-term because individual treatment systems would need to be installed, operated, monitored and maintained at approximately 25 different locations over a long period of time to be protective of human health. While Alternative GW-3 (Whole House Treatment Systems) costs less than Alternative GW-2 (Extension of Public Water Supply), EPA believes the difference in total present value cost is not so significant as to outweigh the benefit of easier implementability and long-term protectiveness under Alternative GW-2 (Extension of Public Water Supply).

The total present value cost (2010 dollars) for the selected ROD Amendment remedy is \$4,623,000, with a further breakdown of this total cost estimate as follows:

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Cost Category	Amended Remedy
Capital Costs	\$ 2,769,734
O&M (Monitoring) Costs	\$1,853,266
Total Present Value (30 yrs @ 7% Discount Rate)	\$ 4,623,000

G. DESCRIPTION OF FUNDAMENTAL CHANGES BETWEEN ORIGINAL (1991) ROD REMEDY AND 2010 ROD AMENDMENT SELECTED REMEDY

1. ORIGINAL (1991) ROD REMEDY:

The selected remedy in the 1991 ROD included a natural attenuation component for management of migration of contaminated groundwater found on the Site as well as institutional controls and monitoring. These components of the selected remedy are described below:

Management of Migration Component:

- Natural attenuation of contaminated groundwater to lower contaminant concentrations through physical, chemical and biological processes until the interim groundwater cleanup levels are met.

Additional Measures:

- Groundwater and surface water monitoring to assess the effectiveness of remediation and to confirm that contaminant concentrations in groundwater attain cleanup levels.
- Implementation of institutional controls to restrict the use of contaminated groundwater and prevent disturbance of ongoing remedial actions. The objectives of the institutional controls were to ensure that no activities take place at the Site or in proximity to the Site which would either affect implementation of the selected remedy or cause exposures to hazardous substances.

These components of the 1991 ROD (as well as all other components of the 1991 ROD) remain unchanged by this ROD Amendment.

2. 2010 ROD AMENDMENT SELECTED REMEDY:

This ROD Amendment supplements, but does not change, the natural attenuation component of the remedy selected in the 1991 ROD. This ROD Amendment adds a new component (i.e.,

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Alternative GW-2: Extension of Public Water Supply) to the management of migration component and expands institutional controls and off-site groundwater monitoring requirements.

Alternative GW-2 involves the extension of the existing, 12-inch water supply main in Raymond along Route 102 and Blueberry Hill Road to the intersection with Windmere Drive (approximately 2 miles) to provide alternate water to approximately 25 residences generally in Area 1 as depicted on Figure 1. The residences will be completely disconnected from their existing private wells and the wells will either be converted to monitoring wells or decommissioned in accordance with NHDES guidelines. The new 12-inch ductile iron water main will also service Windmere Drive and a portion of Strawberry Lane (see Figure 1) using 8-inch ductile iron pipes with copper service connections to each residence. Each residence will also receive plumbing modifications to allow connection from house plumbing to municipal piping, and the installation of water meters for individual metering of water usage to each residence. In accordance with Town of Raymond standards, fire hydrants will be installed every 1,000+/- feet with isolation valves in the mainline at each hydrant.

Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells which may be pumped for any purpose (e.g., drinking water). "New wells" shall include all wells not in full operation (i.e., connected to existing residential dwellings and currently pumping groundwater for domestic use) at the time this ROD Amendment is issued. These limited areas will include Area 1 and any other areas beyond Area 1 where such groundwater pumping has the potential to hydraulically influence the movement of groundwater contamination from the Site, may alter the natural attenuation conditions on the Site and/or impact the remedy selected in the 1991 ROD. Institutional controls will be required, at a minimum, on the 35-lot subdivision located on Perimeter Road in Raymond identified as Lot 5 on the Town of Raymond Assessor's Map 5 and potentially the undeveloped lot(s) directly south of Windmere Drive off of Blueberry Hill Road. Institutional controls could be in the form of local ordinances and/or any other form of institutional control (e.g., deed restrictions, groundwater management zone) that is effective and protective. Significant new groundwater use in some areas near the Site has a high likelihood of drawing Site contamination into new bedrock wells and/or into other existing residential wells due to a hydraulic inter-connection to the contamination on the Site. As a result, groundwater use restrictions will be required in these limited areas. Other residential areas that surround the Site indicated limited or no measureable hydraulic connection to the contamination on the Site based upon the results of the recent aquifer pumping test and would not be areas where restrictions would be imposed unless new information was received by EPA or NHDES.

Groundwater monitoring of Site wells and selected residential wells (especially those in Areas 2 and 3) will be performed to confirm that contamination has not spread to additional residential wells in these areas. Although unlikely, should monitoring indicate that contaminated groundwater has migrated into additional residential wells, these homes would be connected to the public water supply. This ROD Amendment also includes the 5-Year Review Study process to track the progress of meeting the remedial action objectives noted below and to evaluate the protectiveness of the overall remedy.

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3. REMEDIAL ACTION OBJECTIVES:

a. 1991 ROD RAOs

Remedial action objectives (RAOs) included in the 1991 ROD were:

- To eliminate or minimize the threat posed to the public health, welfare, and the environment by the current extent of contamination of groundwater and soils;
- To eliminate or minimize the migration of contaminants from the soils into the groundwater; and
- To meet federal and state Applicable or Relevant and Appropriate Requirements (ARARs).

These RAOs remain unchanged by the ROD Amendment.

b. 2010 ROD AMENDMENT RAOs

The RAOs for this ROD Amendment are designed to provide adequate protection to human health from direct contact, ingestion, or inhalation of hazardous constituents that exist from use of residential wells.

The RAOs are:

- Prevent exposure to contaminants from residential wells used as drinking water wells where contaminants exceed cleanup goals identified in the 1991 ROD/Federal and State drinking water standards; and
- Prevent the use of groundwater in the future where such use has the potential to hydraulically influence the movement of groundwater contamination until cleanup goals established in the 1991 ROD and Federal and State drinking water standards are met.

4. CHANGES IN EXPECTED OUTCOMES:

Both the 1991 ROD and this ROD Amendment address contaminated groundwater at the Site. The expected outcome of the 1991 ROD, as supplemented by this ROD Amendment, remains the same: groundwater will be restored to safe levels throughout the Site. This ROD Amendment insures that the remedy is protective in the interim until groundwater cleanup levels are met by extending the existing public water supply to 25 residences currently impacted or hydraulically influenced by contaminants on or migrating from the Site. This ROD Amendment addresses a risk to off-site residences that was not known at the time of the 1991 ROD.

The institutional controls and monitoring components of this ROD Amendment add additional requirements to the institutional controls and monitoring requirements specified in the 1991 ROD.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

H. SUPPORT AGENCY COMMENTS

NHDES concurs with this ROD Amendment. See Appendix C for the State's concurrence letter.

I. STATUTORY DETERMINATIONS

CERCLA Section 121, 42 U.S.C. § 9621 and the NCP, 40 C.F.R. § 300.430 require that remedies selected for Superfund sites are protective of human health and the environment, comply with applicable or relevant and appropriate requirements (unless a statutory waiver is justified), be cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduce the volume, toxicity, or mobility of hazardous wastes as a principal element. The following sections discuss how this ROD Amendment meets these legal requirements. Extension of the public water supply is consistent with CERCLA and, to the extent practicable, the NCP. This ROD Amendment is protective of human health and the environment, attains ARARs, or invokes an appropriate waiver, and is cost effective.

1. The Amended Remedy is Protective of Human Health and the Environment

This ROD Amendment for the Site will adequately protect human health and the environment by eliminating, reducing, or controlling exposures to human receptors through provision of an alternate water supply, institutional controls, and long-term monitoring. More specifically, extension of the public water supply will provide clean water to the approximately 25 residences located in Area 1 near the Site, while the Natural Attenuation remedy selected in the 1991 ROD will continue to gradually decrease contaminant levels in the aquifer at the Site. This ROD Amendment requires that institutional controls will be established in limited areas surrounding the Site to prevent the installation of any new groundwater wells. These limited areas will include Area 1 and any other areas beyond Area 1 where such use has the potential to hydraulically influence the movement of groundwater contamination from the Site. This will greatly reduce the likelihood that contamination will spread and/or move to other wells not connected to the public water supply under this ROD Amendment. Additional monitoring requirements included in this ROD Amendment will insure that residential wells not connected to the public water supply system remain safe to use in the future.

In the unlikely event that contaminated groundwater migrates into residential wells outside of Area 1, this ROD Amendment requires that these homes be connected to the public water supply system, thereby insuring the overall protection of the remedy.

This ROD Amendment will insure that potential human health risks do not exceed EPA's acceptable risk range of 10^{-4} to 10^{-6} for incremental carcinogenic risk and that the non-carcinogenic hazard is below a level of concern because the calculated HI will not exceed 1.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

Implementation of this ROD Amendment will not pose any unacceptable short-term risks or cause any cross-media impacts.

2. The Amended Remedy Complies With ARARs

This ROD Amendment will comply with all applicable or relevant and appropriate federal and state requirements that apply to it. Tables 2-1 and 2-2 (see Appendix A) identify which requirements are applicable or relevant and appropriate to this ROD Amendment. The ARARs that are required by this ROD Amendment replace those similar requirements identified in the 1991 ROD. All other ARARs identified in the 1991 ROD remain unchanged by this ROD Amendment.

3. The Amended Remedy is Cost-Effective

In EPA's judgment, the selected remedy, as amended, is cost effective because the remedy's costs are proportional to its overall effectiveness (see 40 CFR 300.430(f)(1)(ii)(D)). This determination was made by evaluating the overall effectiveness of the selected remedy that satisfied the threshold criteria (i.e., that are protective of human health and the environment and comply with all federal and any more stringent state ARARs, or as appropriate, waive ARARs).

EPA has determined that this ROD Amendment is cost effective as it meets both threshold criteria and is reasonable given the relationship between the overall effectiveness afforded by the other alternatives and costs. While other alternatives evaluated in the FFS cost less than the extension of the public water supply, EPA believes the difference in cost is not so significant as to outweigh the benefit of easier implementability and the long-term protectiveness provided by this ROD Amendment.

4. The Amended Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable

This ROD Amendment supplements the 1991 ROD by permanently providing safe drinking water through extension of the public water supply. Institutional controls will restrict/prevent the installation of any new groundwater wells in a limited area which may be pumped for any purpose (e.g., drinking water) to prevent contamination from moving to other residential wells outside the area being addressed. Monitoring will be conducted to confirm that contamination has not spread to other residential wells in the area. The requirements of this ROD Amendment, when combined with the requirements in the 1991 ROD, utilize permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable, as source area soil was effectively treated to permanently reduce contaminant concentrations and levels in groundwater continue to decline through natural processes.

Based on EPA's assessment of the trade-offs among remedial alternatives considered in the FFS in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost, EPA finds that the Amended Remedy (Alternative GW-2 of the FFS) provides the best balance of

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT

PART 2: THE DECISION SUMMARY

trade-offs between the alternatives. This ROD Amendment provides comparable long-term effectiveness with similar permanence and fewer implementability issues than the other alternatives. In balancing these factors, EPA has also considered the strong support of the community and the State for the alternative selected by this ROD Amendment. Based upon this evaluation, EPA finds that the Amended Remedy, in combination with the 1991 ROD, uses permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

5. The Amended Remedy Does Not Satisfy the Preference for Treatment as a Principal Element

Because this ROD Amendment supplements the 1991 ROD, it does not by itself require treatment as a principle element. The 1991 ROD required treatment as a principal element as source area soil was treated and groundwater levels are reduced through natural processes.

6. Five-Year Reviews

Because contaminants will remain onsite above levels that allow for unlimited use and unrestricted exposure, EPA will continue to review the Site every five years to ensure that the remedy continues to provide adequate protection of human health and the environment.

J. PUBLIC PARTICIPATION

EPA has maintained close contact with the Town of Raymond and interested parties during 2009-2010. Throughout the Site's history, community concern and involvement have been moderate; community concern and involvement have increased following the Spring 2009 expanded residential sampling effort conducted by NHDES and discovery of contamination in residential wells. NHDES, the lead agency during the O&M phase of the remedial action at the Site, and EPA have kept the community and other interested parties, including state and federal legislators, apprised of Site activities through informational meetings, fact sheets, press releases and public meetings.

Below is a very brief chronology of public outreach efforts for the Site regarding the recent groundwater contamination surrounding the Site:

- On September 15, 2009, NHDES and EPA held a public informational meeting regarding the expanded residential well sampling effort.
- NHDES posted Monthly Updates on their OneStop website in October 2009 and November/December 2009, January 2010 and June 2010.
- On November 2, 2009, NHDES and EPA held a public informational meeting regarding acquisition of the Mottolo property by the Town, and further updates on investigation efforts being conducted on and surrounding the Site.
- NHDES issued a Fact Sheet in early March 2010 announcing the March 24, 2010 Public Meeting and release of the March 2010 Preliminary Data Report.

MOTTOLO PIG FARM SUPERFUND SITE - RECORD OF DECISION AMENDMENT PART 2: THE DECISION SUMMARY

- On March 24, 2010 NHDES and EPA held a public informational meeting regarding sampling of residential wells in September and December 2009 and the March 2010 Preliminary Data Report.
- During the last week of July 2010, a notice was published in the Manchester Union Leader regarding the availability of the Proposed Plan and the upcoming public informational meeting to be held on August 4, 2010 at the Raymond High School.
- On July 30, 2010, EPA made the Administrative Record and Proposed Plan available for public review at EPA's offices in Boston, at the Dudley-Tucker Library, and at NHDES.
- On August 2, 2010, EPA also issued a press release announcing the release of the Proposed Plan, the duration of the public comment period, and the public informational meeting on August 4, 2010.
- On August 4, 2010, EPA and NHDES held a public informational meeting regarding the Proposed Plan for contaminated groundwater in residential wells.
- From August 5, 2010 to September 4, 2010, the Agency held a public comment period to accept public comment on the alternatives presented in the Focused Feasibility Study and the Proposed Plan and on any other documents previously released to the public.
- On September 1, 2010, the Agency held a Public Hearing to discuss the Proposed Plan and to accept any oral comments. A transcript of this meeting and the comments and the Agency's response to comments are included in the Responsiveness Summary, which is included as Part 3 to this Record of Decision Amendment.

The public outreach efforts identified above satisfy the public participation requirements of §300.435(c)(2)(ii) of the NCP.

K. DOCUMENTATION OF NO SIGNIFICANT CHANGES FROM THE PREFERRED ALTERNATIVE IN THE PROPOSED PLAN

The Proposed Plan to amend the 1991 ROD was released for public comment in July 2010. EPA has determined that, based on comments received during the public comment period that concluded on September 4, 2010, no significant change is needed to the Proposed Plan and the selected remedy remains unchanged from the preferred alternative in the Proposed Plan. EPA has prepared a Responsiveness Summary, which is included as Part 3 to this ROD Amendment, which addresses those written and oral comments received during the public comment period.

MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT REFERENCES

(Balsam, 1990) – July 1990, REMEDIAL INVESTIGATION (RI) REPORT, VOLUMES 1 THRU 8.

(GZA, 2010a) – July 2010, “FOCUSED FEASIBILITY STUDY, MOTTOLO PIG FARM SUPERUND SITE” RAYMOND, NEW HAMPSHIRE. NHDES # 198704094.

(GZA, 2010b) – March 2010, “PRELIMINARY INTERPRETATION OF VOC, ARSENIC, AND URANIUM 2009 DATA IN RESIDENTIAL AND MONITORING WELLS MOTTOLO SUPERFUND SITE” RAYMOND, NEW HAMPSHIRE. NHDES NO. 198704094.

**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
APPENDICIES**

Appendix A: Tables

**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
APPENDICIES**

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Table 1: Groundwater Interim Cleanup Levels (from 1991 ROD)

Carcinogenic Contaminants of Concern	Interim Cleanup Level (ug/L)	Basis	Level of Concern Risk	
Arsenic (1)	50†	MCL/RSK MGMT	2 x (10-4)	
Trichloroethene	5	MCL	2 x (10-6)	
Vinyl Chloride	2	MCL	1 x (10-4)	
1,1-Dichloroethane	81	SHA (2)	2 x (10-4)	
			SUM:	5 x (10-4)
Non-Carcinogenic Contaminants of Concern	Interim Cleanup Level (ug/L)	Basis of Toxicity	Target Endpoint	Hazard Index
Toluene	1,000	MCLG	Liver*	.1
Ethylbenzene	700	MCLG	Liver*	.2
1, 2-Dichloroethene (Tot.)	70 (3)	MCLG	Serum Enzymes	.2
Tetrahydrofuran	100	RFD (4)	Liver*	10
1,1,1-Trichloroethane	200	MCLG	Liver*	.06
			SUM:	10

(1) The cleanup level for arsenic has been set at the MCL of 50 UG/L. The carcinogenic risk posed by arsenic at 50 UG/L in ground water will approximate $2 \times (10^{-3})$. However, in light of recent studies indicating that many skin tumors arising from oral exposure to arsenic are non-lethal in nature and in light of the possibility that the dose-response curve for the skin cancers may not be a direct, straight-line relationship (in which case the cancer potency factor used to generate risk estimates will be overstated), it is Agency policy to view these risks as lower by as much as an order of magnitude ($\times 10$). As a result, the carcinogenic risks for arsenic at this site have been treated as if they were $2 \times (10^{-4})$. See EPA memorandum, "Recommended Agency Policy on the Carcinogenicity Risk Associated with the Ingestion of Inorganic Arsenic" dated June 21, 1988.

(2) State Health Advisory, Risk estimate based on Cancer Potency Factor of $9.1 \times (10^{-2})$ (MG/KG/Day) – 1
Derived by State

(3) More Restrictive MCLG for CIS-1, 2-Dichlorethene

(4) Interim cleanup level based upon interim reference dose and risk management factors which account for uncertainties in the risk studies

* Sum for similar target endpoints.

† Although ARARs are typically frozen at the time of the ROD, newly promulgated requirements must be met where necessary for protectiveness of the remedy. The MCL for arsenic in drinking water was changed from 50 ug/l to 10 ug/l and became effective as of February 22, 2002. Therefore, 10 ug/l arsenic is now the ICL for the Site.

TABLE 7.1 COMPARATIVE ANALYSIS OF GROUNDWATER/DRINKING WATER REMEDIAL ALTERNATIVES

Mottolo Pig Farm Superfund Site
Raymond, New Hampshire

THRESHOLD CRITERIA							
ALTERNATIVE	OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT	COMPLIANCE WITH ARARS	LONG-TERM EFFECTIVENESS AND PERMANENCE	REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT	SHORT-TERM EFFECTIVENESS	IMPLEMENTABILITY	COST
Alternative GW-1: No Action	Alternative GW-1, No Action, would be the least protective of the three alternatives. It would offer no protection to human health and the environment. Potential risks from exposure to contaminated groundwater/drinking water would remain.	Does not meet ARARs.	The residual risk remains high under Alternative GW-1 as there would be continued exposures to contaminated drinking water above both Federal and State standards and no controls to prevent future exposure.	No reduction in toxicity, mobility or volume or treatment under Alternative GW-1.	As no active remedial action is taken under this alternative, there are no short term effectiveness impacts to the community, workers, or the environment.	Easily implemented. Long-term groundwater/residential well monitoring would be required.	Least costly of the alternatives. Only cost is for monitoring and reporting. Present Value Cost = \$1,854,000
Alternative GW-2: Extension of Public Water Supply	This alternative is highly protective of human health and the environment. Alternative GW-2, Extension of Public Water Supply, would provide significantly greater protection than Alternative GW-1 because public water will be provided to residents located in Area 1. Institutional controls would be implemented to prevent the installation of any new groundwater wells in a limited area to prevent contamination from moving to other residential wells outside the area connected to the public water supply. Long-term monitoring would be performed to verify the continued protection of human health.	Meets ARARs. See Tables 2-1 and 2-2.	The magnitude of the residual risk is low under Alternatives GW-2 as safe drinking water is being provided by supplying public water. Alternatives GW-2 relies on institutional controls to prevent contamination from moving to other residential wells outside the area being addressed. These controls are reliable if adequately monitored, maintained and, if necessary, enforced. Alternative GW-2 relies on monitoring to confirm contamination has not spread to other residential wells. Monitoring is a very reliable means to track changes in groundwater and residential wells.	No reduction in toxicity, mobility or volume through treatment. However, there will be some reduction in mobility as all Area 1 residential wells will no longer be in use.	Construction/implementation of Alternative GW-2 would not have any significant impacts. There will be some temporary disruption to the community along roads where the municipal water line extension will have to be laid as well as minor disruption to Area 1 residents from well decommissioning and hook ups to the water line. All workers would perform all work in accordance with a site-specific health and safety plan. Time required to design/construct/implement Alternative GW-2 is approximately 18-24 months.	Easily implemented. Long-term monitoring would be required. Use of public water is a highly reliable technology to address contaminants in drinking water. Requires coordination with adjacent property owners and appropriate federal, state, and local agencies to implement institutional controls. Once put in place, institutional controls can be fairly easily monitored. Effectiveness is dependent on enforcement. Homeowners must agree to pay an annual fee for public water (estimated approximately \$440 per year)	Higher in cost compared to Alternatives GW-1 and GW-3. Present Value Cost = \$4,623,000

TABLE 7.1 COMPARATIVE ANALYSIS OF GROUNDWATER/DRINKING WATER REMEDIAL ALTERNATIVES

Mottolo Pig Farm Superfund Site
Raymond, New Hampshire

THRESHOLD CRITERIA							
ALTERNATIVE	OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT	COMPLIANCE WITH ARARS	LONG-TERM EFFECTIVENESS AND PERMANENCE	REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT	SHORT-TERM EFFECTIVENESS	IMPLEMENTABILITY	COST
Alternative GW-3: Whole House Treatment Systems	This alternative is highly protective of human health and the environment. Each home within Area 1 would be provided safe drinking water by installation and maintenance of individual whole house treatment systems. As with Alternative GW-2, institutional controls would be implemented to prevent the installation of any new groundwater wells in a limited area to prevent contamination from moving to other residential wells outside the area connected to whole house treatment systems until cleanup goals are achieved. In addition, long-term groundwater monitoring would be done to verify protection of human health.	Meets ARARs. See Tables 2-1 and 2-2.	<p>The magnitude of the residual risk is low under Alternative GW-3 as safe drinking water is provided by treating the groundwater prior to consumption.</p> <p>Alternative GW-3 relies on institutional controls to prevent contamination from moving to other residential wells outside the area being addressed. These controls are reliable if adequately monitored, maintained and, if necessary, enforced.</p> <p>Alternative GW-3 relies on monitoring to confirm contamination has not spread to other residential wells in the area. Monitoring is very reliable means to track changes in groundwater and residential wells. Alternative GW-3 relies on frequent monitoring of influent and effluent waters in/from each whole house treatment system. Incidental exposure to contaminated groundwater is unlikely given that contaminate concentrations in residential wells are relatively low, each treatment system has multiple filters to capture contamination, routine maintenance of the systems is expected to occur, annual treatment component replacement is planned, and monitoring is a very reliable means to track issues with whole house treatment systems.</p>	Reduction in toxicity, mobility and volume, through treatment, is very small.	<p>Construction/implementation of Alternative GW-3 would not have any significant impacts. Minor homeowner disruptions to Area 1 residents will occur due to the installation of the individual whole house treatment systems in each home. All workers would perform all work in accordance with a site-specific health and safety plan. Time required to design/construct/implement Alternative GW-3 is approximately 12 months.</p>	<p>Easily implemented.</p> <p>Long-term monitoring would be required as well as additional monitoring of each whole house treatment system. Whole house treatment systems are highly reliable technologies to address contaminants in drinking water.</p> <p>Requires coordination with adjacent property owners and appropriate federal, state, and local agencies to implement institutional controls. Once put in place, institutional controls can be fairly easily monitored. Effectiveness is dependent on enforcement.</p> <p>Institutional controls on some properties may be more difficult to implement under Alternative GW-3 as there may be limited or no viable options for alternative water in some cases thereby preventing development of some properties.</p> <p>While Alternative GW-3 has potential for incidental exposure this is very unlikely given contaminate concentrations in residential wells are relatively low, each system has multiple filters to capture contamination, routine maintenance of the systems is expected to occur, and monitoring is a very reliable means to track issues with whole house treatment systems</p> <p>Town officials have indicated support for a water line and may be reluctant to agree to the use of whole house treatment systems for long term groundwater use, thereby making Alternative GW-3 more difficult to implement than Alternative GW-2.</p>	<p>Lower in cost compared to Alternative GW-2.</p> <p>Present Value Cost = \$3,744,000</p>

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TABLE 2-1 POTENTIAL CHEMICAL-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS AND TBCS
Mottolo Pig Farm Superfund Site.
Raymond, New Hampshire

STATUTE/ REGULATION	STATUS	REQUIREMENT SYNOPSIS	CONSIDERATION IN THE FEASIBILITY STUDY PROCESS	ACTION TAKEN TO ATTAIN ARAR
Safe Drinking Water Act National Primary Drinking Water Regulations Maximum Contaminant Levels, 40 CFR 141.11-141.16, 141.60-141.62	Applicable GW-1, GW-2 and GW-3	Maximum Contaminant Levels (MCLs) have been promulgated for several common organic and inorganic contaminants. These levels regulate the concentration of contaminants in public drinking water supplies, but may also be considered relevant and appropriate for groundwater aquifers used for drinking water.	MCLs must be met for water used as drinking water.	Alternative GW-1 would not meet these requirements. Alternatives GW-2 and GW-3 would provide drinking water that meets these requirements.
New Hampshire Water Quality Standards; Env-Dw700	Applicable GW-1, GW-2 and GW-3	These regulations set forth New Hampshire drinking water quality standards based on health and technical practicability, for water supply systems. The aquifer at the site is used as drinking water. When Ambient Groundwater Quality Standard (AGQS) standards are more stringent than federal levels, the state levels must be met.	AGQS must be met for water used as drinking water.	Alternative GW-1 would not meet these requirements. Alternatives GW-2 and GW-3 would provide drinking water that meets these requirements.

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TABLE 2-2 POTENTIAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS AND TBCS

Mottolo Pig Farm Superfund Site
Raymond, New Hampshire

STATUTE/ REGULATION	STATUS	REQUIREMENT SYNOPSIS	CONSIDERATION IN THE FEASIBILITY STUDY PROCESS	ACTION TAKEN TO ATTAIN ARAR
New Hampshire Ambient Air Quality Standards, Env-A 300	Applicable GW-2	These regulations set requirements on the control of fugitive emissions and dust.	Compliance with these requirements will be required for any construction activities that might result in the generation of fugitive dust.	Construction under GW-2 will be conducted in accordance with these requirements.
New Hampshire Administrative Rules - GENERAL DESIGN STANDARDS: SYSTEMS SERVING 1,000 OR MORE PEOPLE Env-Ws 370	R and A GW-2	Provides design standards for municipal water supply systems.	These regulations would need to be followed in constructing a municipal water line extension.	Construction under GW-2 will be conducted in accordance with these requirements.
New Hampshire Administrative Rules- DESIGN STANDARDS FOR SMALL COMMUNITY WATER SYSTEMS Env-Ws 372	Applicable	Provides designs standards for small community water systems	These regulations would need to be followed in constructing a new community water system.	Community water system has been screened out.
New Hampshire Public Water Systems Guidelines, Env-Wq 400	TBC	Env-Wq 400 provides guidance in establishment of a protection radius around wellheads and limitations on activities and land uses near wellheads. It also gives guidelines on large groundwater withdrawals.	This Guidelines would be considered to the extent that remedial action alternatives requires establishing a new public water system.	Community water system has been screened out.

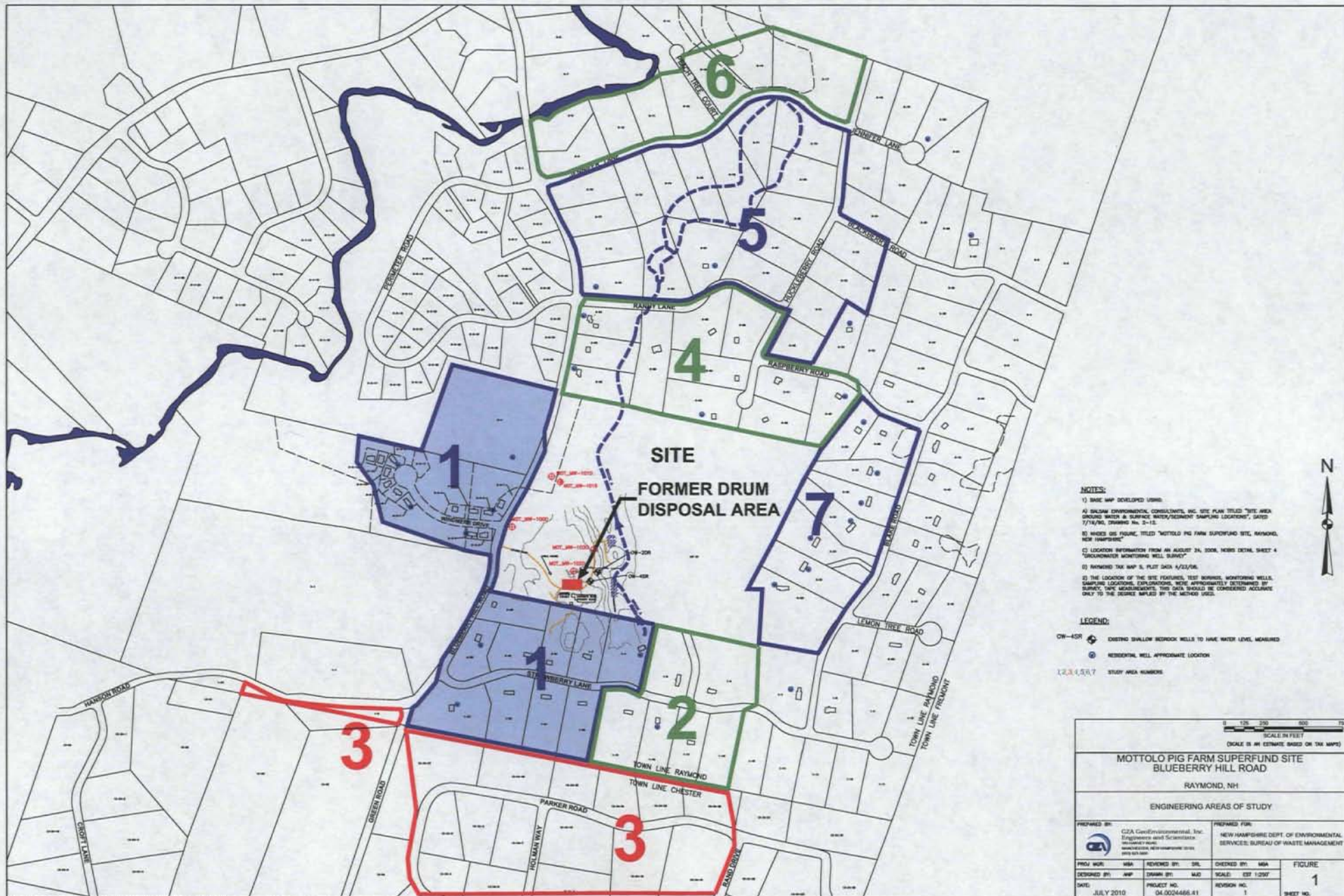
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**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
APPENDICIES**

Appendix B: Figures

**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
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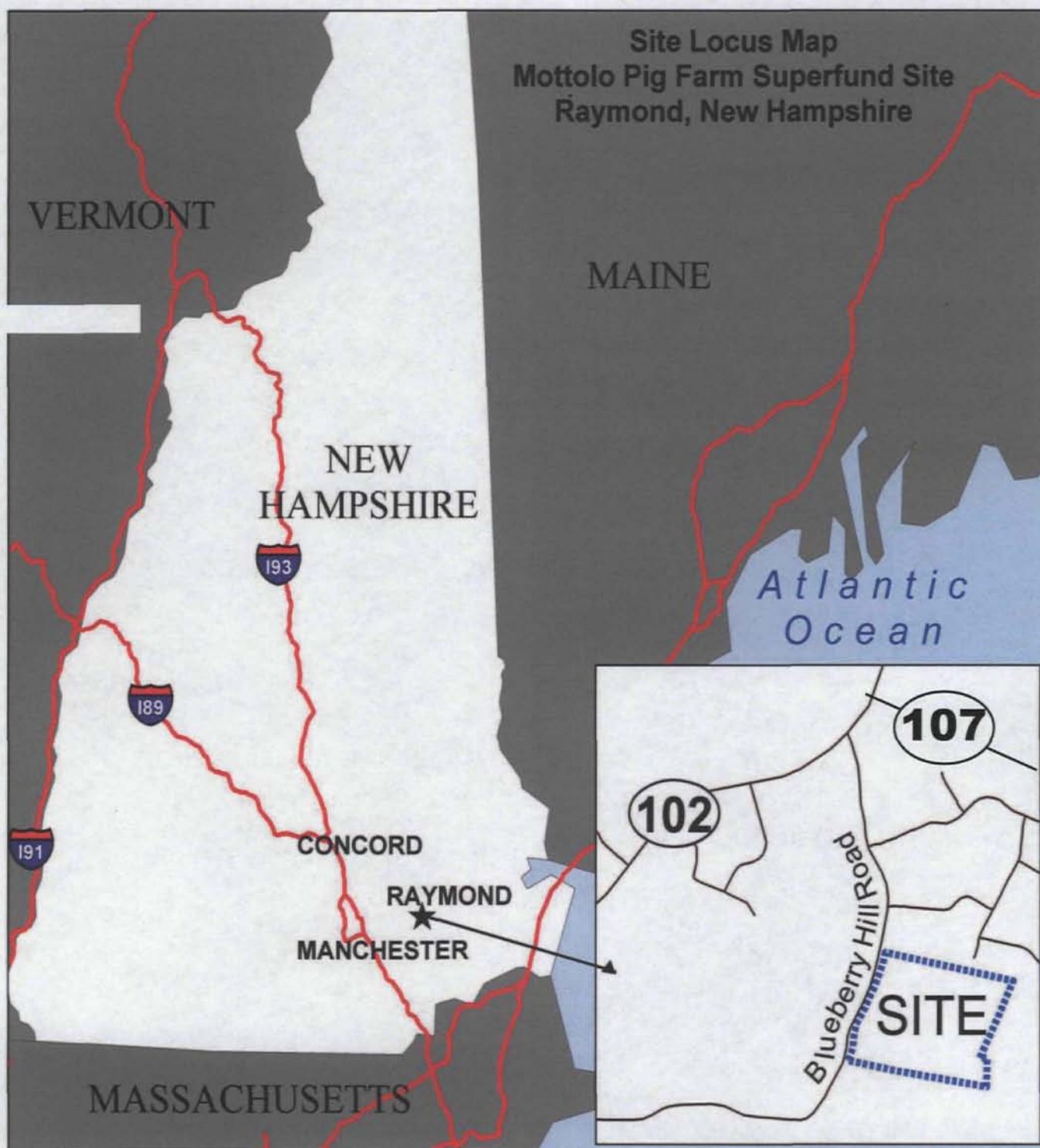


FIGURE 2

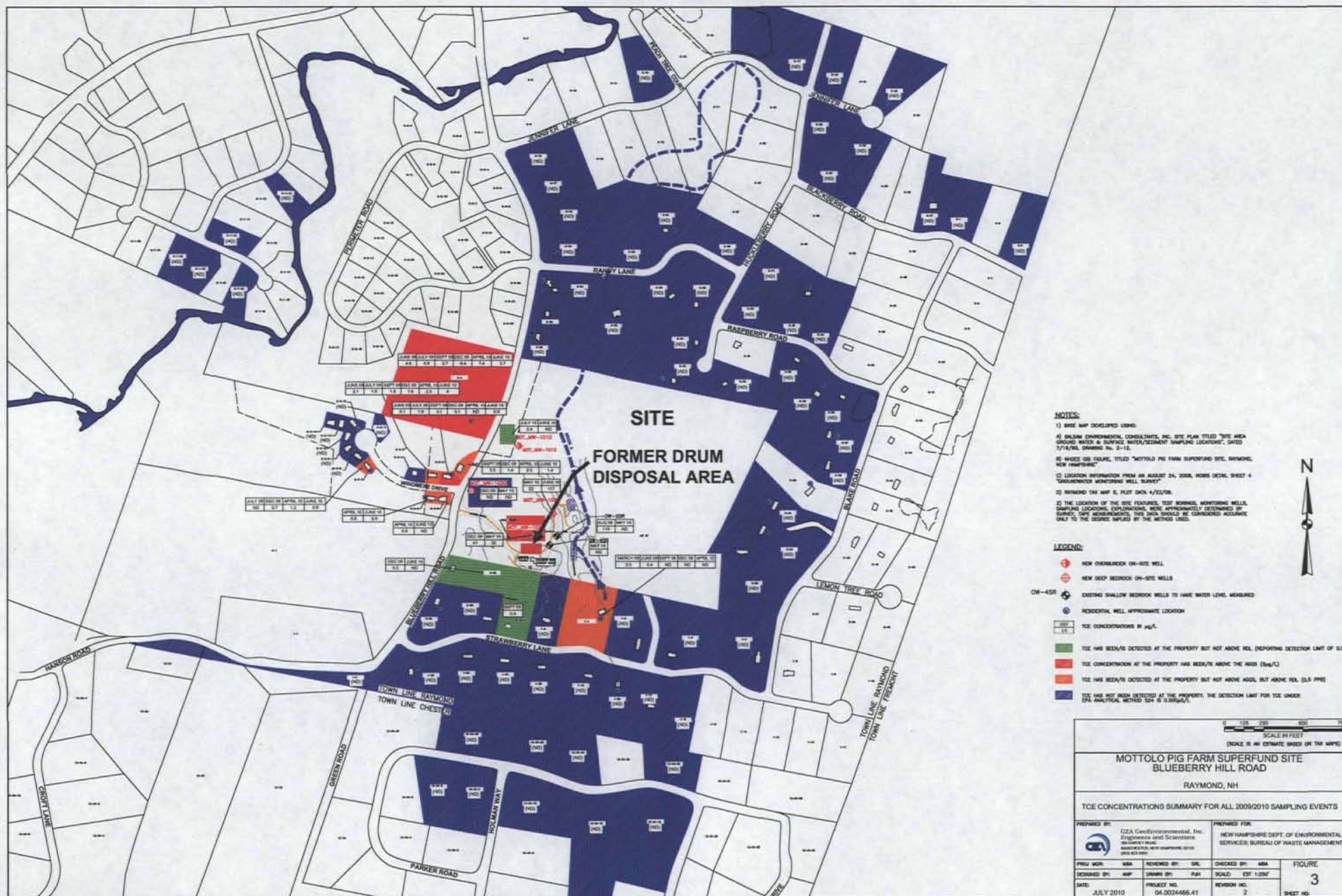
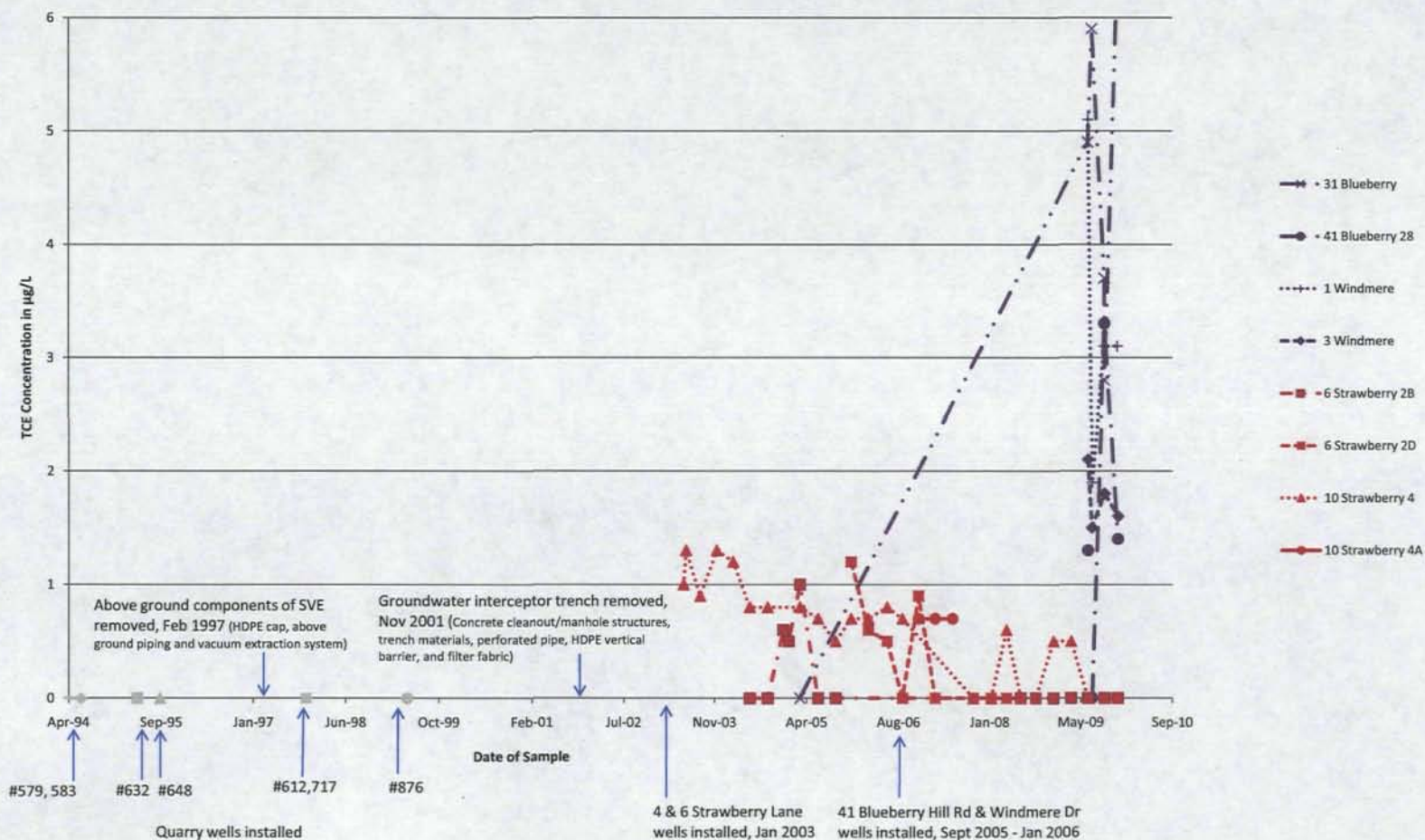




FIGURE 8 -- Historical Residential TCE Concentrations
AGQS = 5 µg/L



**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
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Appendix C: State Concurrence Letter

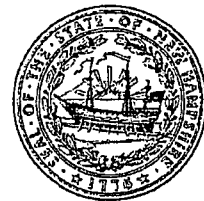
**MOTTOLO PIG FARM SUPERFUND SITE RECORD OF DECISION AMENDMENT
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The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner



September 16, 2010

James T. Owens III, Director
Office of Site Remediation and Restoration
US EPA New England, Region I
5 Post Office Sq, Suite 100
Boston MA 02109-3912

**RE: Amended Record of Decision
Mottolo Pig Farm Superfund Site
Raymond, New Hampshire = DES #198704094, Project RSN #2032**

SUBJECT: Declaration of Concurrence

Dear Mr. Owens:

The New Hampshire Department of Environmental Services (Department) has reviewed the Amended Record of Decision (AROD), dated September 2010, for the Mottolo Pig Farm Superfund Site (Site) in Raymond, New Hampshire. The United States Environmental Protection Agency (EPA) prepared this AROD in accordance with the provisions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986. The AROD addresses the remedial actions necessary under CERCLA, as amended, to manage potential threats to human health and the environment at the Site.

Rationale for the AROD

The 1991 Record of Decision (ROD) selected natural attenuation of groundwater as a component of the overall remedy at the Site. Contaminated groundwater has subsequently migrated from the Site into nearby residential wells. The subject AROD supplements the 1991 ROD by adding an extension of the Town of Raymond public water supply main approximately two miles to provide public water to 25 residences impacted by contaminated groundwater from the Site. The AROD is based on sampling results obtained since the time of the 1991 ROD and new information obtained from studies conducted at and around the Site in 2009-2010.

Since the 1991 ROD was issued, land use in the vicinity of the Mottolo property has changed significantly. Residential development now essentially surrounds the Mottolo property and all are serviced by individual wells to meet all their water needs. During the summer of 2009, NHDES performed expanded groundwater sampling to ensure that Site-related groundwater contamination was not adversely impacting nearby residential wells. The Department initially sampled 34 residential wells surrounding the Site and found trichloroethylene (TCE) in four residential wells, two exceeding drinking water standards, and arsenic exceeding drinking water standards in 12 residential wells, primarily in homes located west of the Site. The Department immediately provided all affected homes with bottled water and/or individual water treatment systems.

In the fall of 2009, GZA GeoEnvironmental, Inc. (GZA) was contracted by NHDES, using EPA funds, to perform additional data collection activities to further refine EPA's and the State's understanding

of the impact of groundwater contamination on residential wells near the Mottolo property. GZA installed several deep bedrock monitoring wells; conducted geophysical logging of the new deep bedrock wells and several residential wells; sampled numerous residential and Site wells, which included depth interval sampling of deep bedrock wells at the Site and a contaminated residential well; measured deep bedrock groundwater levels in Site and residential wells; and evaluated the collected data. GZA issued a draft report in March 2010 that summarized these investigative activities. In addition, an aquifer pumping test was conducted in June 2010 to better define the area that could potentially be impacted by Site-related contaminated groundwater.

Based upon these investigations, EPA and the Department have determined that Site groundwater is now influenced by residential well pumping in the vicinity of the Mottolo property, particularly pumping to the west and south. As a result, arsenic and TCE are being detected in some residential wells on Blueberry Hill Road, Windmere Drive and Strawberry Lane above Federal and State drinking water standards. An increase in contaminant concentrations in those wells where contamination has been detected is likely to occur and the installation of new water supply wells could also result in contamination spreading over time.

As a result, additional measures are needed to prevent exposure to contaminated drinking water and to prevent the further migration of contaminated groundwater. A Focused Feasibility Study (FFS) was conducted that summarized the current nature and extent of groundwater contamination and potential human health risks, and developed a range of remedial alternatives to address contaminated groundwater.

This AROD will supplement the 1991 ROD selected remedy for groundwater by extending the Town of Raymond public water supply to 25 residences in the vicinity of the Site. The connections to the waterline will be made in accordance with the applicable or relevant and appropriate requirements, and the operation and maintenance of the waterline will be assumed by the Town of Raymond. Groundwater quality in the vicinity of the Site will continue to be monitored and, should the results of the groundwater monitoring indicate that additional residential wells, currently in use, have become impacted by Site contamination, public water would be extended to those residences. Finally, the AROD requires institutional controls, which are currently anticipated to be implemented through a Town ordinance. The residential wells serving the homes to be connected to the water system will be abandoned or converted to monitoring wells.

Justification for the Remedy Change

The selected remedy will be protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate, is cost effective, and uses permanent solutions to the maximum extent practicable. The selected remedy will provide a high degree of overall protection, will be effective in the long-term, and will be permanent by providing a source of clean water to the affected residences.

State Concurrence

In reviewing the AROD, the Department has determined that the remedy change is consistent with the Department's requirements for a remedial action plan and meets all of the criteria for remedial action plan approval. The selected remedy establishes a remedial action that will provide alternate water to affected homes, continue monitoring of residential wells in the area, and implement

institutional controls that manage the health hazard associated with exposure to contaminated groundwater. Ultimately, the proposed remedial action will provide protection of human health and the environment. Therefore, the Department, acting on behalf of the State of New Hampshire, concurs with the selected remedy, as described in the AROD.

The Department also acknowledges and appreciates EPA's consideration of the strong community and State support for the selected remedy. In striving to maximize the effectiveness of limited public and private resources, the Department seeks reasonable and practical solutions to the complex challenges associated with contaminated site cleanups. EPA's dedication and continued partnership with the Department will ensure the achievement of our mutual environmental goals at this Site. To this end, the Department stands ready to provide whatever assistance that EPA may require.

Sincerely yours,



Michael J. Wimsatt, P.G., Director
Waste Management Division

cc: Christopher Rose, Raymond Town Manager
Board of Selectmen, Town of Chester
Senator Jeanne Shaheen
Michael Jasinski, USEPA
Peter Roth, NHDOJ
Michael J. Walls, NHDES
Frederick J. McGarry, NHDES
Carl W. Baxter, NHDES
Richard Pease, NHDES
Andrew Hoffman, NHDES

RECORD OF DECISION AMENDMENT

PART 3: RESPONSIVENESS SUMMARY

Mottolo Pig Farm Superfund Site
Raymond, NH

SEPTEMBER 2010

**MOTTOLO PIG FARM SUPERFUND SITE – RECORD OF DECISION
AMENDMENT
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PREFACE

The purpose of this Responsiveness Summary is to document EPA's responses to those questions, comments and concerns raised during the public comment period on the July 2010 Proposed Cleanup Plan for the Mottolo Pig Farm Superfund Site ("the Site"). This Responsiveness Summary is required by CERCLA §117 and the NCP §§300.430(f)(3)(i)(F) and 300.430(f)(5)(iii)(B).

EPA held a 30-day public comment period on the July 2010 Proposed Cleanup Plan from August 5 to September 4, 2010. Verbal comments were received from nine local residents/elected officials at the Public Hearing held on September 1, 2010 at the Raymond High School in Raymond, New Hampshire. **Attachment A** to this Responsiveness Summary contains a copy of the transcript from this Public Hearing. Written comments were also received from several residents, local officials and interested parties. All of the original comments submitted to EPA are included in the Administrative Record.

EPA considered all of the comments summarized in this document before selecting the Amended Remedy to address the contamination in residential wells near the Site. None of the oral or written comments received by EPA were in opposition to the proposed remedy change, although some commenter's requested that the Amended Remedy be expanded. The State of New Hampshire is supportive of this ROD Amendment for the Site.

SUMMARY OF COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD AND EPA RESPONSES

Comments received from several residents, local officials and interested parties and EPA responses are presented below:

Comment 1: *Barbara Ewell, a relative of a resident near the Site, noted that "... [a residence on] Randy Lane is next to the designated areas with possible contamination from the Mottolo site" and that "[a] much higher rate of arsenic ... may very probably indicate more seepage from the Mottolo site bedrock. Certainly, a relatively short extension of town water now would be prudent."*

EPA Response: Based on the information available from the field investigations undertaken on the Site and specific samples obtained from this residence on Randy Lane during 2009-2010, EPA does not believe that the one-time, high concentration of arsenic in this residential well is related to contamination from the Mottolo Site but is more likely to be naturally occurring. This is based on the fact that trichloroethylene ("TCE"), a contaminant on the Mottolo property, has not been detected in this residential well and that no observed drawdown occurred in the vicinity of this well during the weeklong

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aquifer pumping test on the Site. Finally, the most recent sample results from this well in April 2010 did not identify arsenic above the drinking water standard of 10 ug/l (ppb). The determination that the arsenic detected in this well is not likely to be Site-related was made in consultation with the New Hampshire Department of Environmental Services (“NHDES”), the United States Geological Survey (“USGS”) and GZA GeoEnvironmental, Inc. (“GZA”).

However, as EPA noted in the Proposed Plan, additional residential well sampling will continue to be performed in areas surrounding the Site, which may include some residences north of the Site in the vicinity of Randy Lane. Based upon this sampling, additional residences may be connected to the waterline in the future if it is determined that Site-related contamination has spread to additional residential wells beyond those in the area identified in the Proposed Plan as Area 1.

Finally, if the Town of Raymond decides to expand the waterline that EPA plans to install in this area, the 12-inch main that will be installed as part of EPA’s remedy will run up Blueberry Hill Road and can be retrofitted by the Town to include an extension to Randy Lane (if capacity within the Town’s water supply exists). The possible connection of other homes in the future to the waterline would not be part of EPA’s Amended Remedy unless new information indicates these homes are impacted by contamination from the Site.

***Comment 2:** Richard Tellier, a resident near the Site, asked the following question during the public hearing: “I’m just wondering what happens if somebody that’s not getting hooked up to the waterline their wells goes dry at their home or their neighborhood.”*

EPA Response: EPA’s Amended Remedy includes provisions for implementing institutional controls in limited areas to prevent the installation of any new wells which may be pumped for any purpose (e.g., drinking water). These limited areas will include Area 1 and any other areas beyond Area 1 where such groundwater pumping has the potential to hydraulically influence the movement of groundwater contamination on the Site, may alter the natural attenuation conditions on the Site and/or impact the remedy selected in the 1991 ROD. Replacement of existing residential wells will not be included in this prohibition, but residents are encouraged to contact EPA and/or NHDES if a replacement well is needed in order to avoid any potential contamination issues from the Site in the future.

***Comment 3:** Richard Galante, a resident near the Site, wrote that he “... looked at the proposal and was surprised to see it is only 25 homes that will be added to the water main ...” and also commented that “... this solution offers no security (knowing my well will be safe if you will) whatsoever. Considering all the new homes that will be developed off of Blueberry Hill Rd etc. I don’t understand how I can be so close vicinity*

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wise yet not part of the water main extension?” Finally, this commenter noted “[a]ll the homes in the area should be given the same treatment and fears should be erased for ALL affected parties.”

EPA Response: Based on the extensive sampling data collected by the NHDES over the past year in residential wells surrounding the Site, this particular residential well (located northeast of the Site) has not been identified as having any volatile organic compounds (“VOCs”) or arsenic contamination. In addition, if the Town of Raymond decides to expand the waterline that EPA plans to install in this area, the 12-inch main that will be installed on Blueberry Hill Road can be retrofitted by the Town to include an extension to other areas surrounding the Site (if capacity within the Town’s water supply exists).

Finally, as part of EPA’s selected remedy, institutional controls will be put in place which will restrict the installation of any new wells which may be pumped for any purpose (e.g., drinking water) on the new development off of Blueberry Hill Road. This is expected to help reduce the potential for further migration of groundwater contamination into other areas surrounding the Site.

***Comment 4:** Claire Gurley, a resident near the Site, stated in both her written and oral comments provided during the public comment period that she is only 1/8 mile from wells on Strawberry Lane and that water samples taken from her residence in April 2010 and June 2010 were reported at 81.4 and 94.1 ug/l for arsenic, respectively. This commenter believes this high level of arsenic contamination is from the Mottolo Site and, therefore, that three homes on Blueberry Hill Road should be addressed by the selected remedy. “We deserve some water there.” “I need water to come closer than Windmere.”*

EPA Response: As stated on several occasions by both EPA and NHDES, arsenic detected in the water samples obtained in 2010 from this resident’s well does not appear to be Site-related. This determination is primarily based upon the following: (1) no TCE contamination has been detected at all in this residential well in contrast to the contamination that has been observed in wells on Windmere Drive and Strawberry Lane, and (2) while a slight hydraulic connection was noted in this residential well during the weeklong aquifer pumping test performed in June 2010 on the Site, the gradual drawdown observed after the 5 day test (totaling approximately 2 feet) was much less than that found within the impacted residential wells within Area 1 (and not that dissimilar to drawdown observed within residential wells in Area 2). However, the geochemical make-up of the water samples from this resident’s well are somewhat confounding with respect to the geochemical make-up of the groundwater samples obtained directly on the Site and in nearby, impacted residential wells to the west of the Site. Therefore, as EPA identified in the Proposed Plan, additional residential well sampling will continue to be performed in areas surrounding the Site (especially in the areas identified in the Proposed Plan as Areas 2 and 3), which will likely to include these residences. Based upon this sampling, additional residences may be connected to the

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waterline in the future if it is determined that Site-related contamination has spread to additional residential wells.

In addition, as noted in EPA's responses above, if the Town of Raymond decides to expand the waterline that EPA plans to install in this area, the 12-inch water main that will run up Blueberry Hill Road to the intersection with Strawberry Lane can be retrofitted to include an extension further up Blueberry Hill Road to include the three (3) residences noted above (if capacity within the Town's water supply exists). The possible connection of these homes in the future to the waterline would not be part of EPA's Amended Remedy unless new information indicates this contamination is from the Site.

***Comment 5:** At the public hearing, two local officials from the Town of Raymond (Joyce Wood, speaking as an individual, and Chris Rose, the Town Manager) specifically stated their support for the waterline extension proposed by EPA as the amended remedy to address contamination in residential wells near the Site. Both noted that the waterline permanently addresses contamination problems for these homes and allows for further hookups, if needed in the future. The Town Manager also noted that the recent July 2010 water ban has been lifted with associated problems addressed and that there is sufficient capacity for this waterline extension.*

EPA Response: EPA and NHDES greatly appreciate the support of Town officials on our Proposed Plan and anticipate working very closely with the Town as we move forward with the design and construction of the waterline to the affected residences near the Mottolo Site.

***Comment 6:** William Hoitt, a member of the Raymond Board of Selectmen, asked what the timeline is for construction and getting the waterline in place. He noted that he would "...really hope that we don't take another year to get this underway and get started."*

EPA Response: EPA, working closely with NHDES and the Town of Raymond, will make every effort possible to design and construct the waterline within the next year. Unfortunately, it is difficult to commit to an exact timeline for installation of the waterline due to unforeseen circumstances that might arise during the design and/or construction process. In addition, since EPA will be entering another fiscal year for funding the construction phase of this project, there may be potential EPA budget constraints that may impact the funding of the waterline. EPA will keep all interested parties informed as we progress with the design and funding for construction of this project following signing of this ROD Amendment.

***Comment 7:** Joshua Coombs, a resident near the Site, just wanted to go on record that he felt "... the DES and the EPA have made the correct decision in extending the waterline, and I appreciate the decision." He also wanted to go on record to state that*

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“... I knew about the Mottolo Site when I moved into my house. We contacted the DES and we were made aware of the current standings of the Mottolo Site at that time. This is 2006, early 2006. Once we moved in the house we did realize that we were high in arsenic in the house... We spent a lot of money on a filtration system for our house to rectify the problem; and now that we’re going to be hooked up to city water, that water system that I paid for at that time is useless. And in addition to that, going forward we are going to incur the expense of city water.”

EPA Response: Under the Superfund law, EPA is responsible for protection of human health and the environment. EPA believes the remedy selected in this ROD Amendment is the best alternative for protection of the community as a whole and that the annual fee that will be required for use of the public water supply in the future is a reasonable cost to users of this system.

Comment 8: *Stephen Landau, Chairman of the Board of Selectmen for the Town of Chester, submitted a written comment and summarized his comment letter at the public hearing. This commenter suggested that EPA take additional action (construction and operation of a groundwater pump and treatment system) on the Mottolo property to address groundwater contamination. “During the first meeting we suggested that a well be drilled at the original site of contamination. The purpose for drilling that well would be to draw the water off at the original point of contamination. We believe it would be cost effective to drill a well and place a filtering system just one time and still monitor the other sites that have not as of yet been polluted.”*

EPA Response: EPA agrees that groundwater contamination remains at the Mottolo property, but notes that levels have decreased significantly over time. As anticipated in the original 1991 Record of Decision for the Site, any remaining residual contamination should diminish over time because of natural processes, including biodegradation. It should be noted that this ROD Amendment focuses on providing safe drinking water to local residents and does not reexamine the original cleanup plan for groundwater. EPA and the NHDES may decide that further evaluation of this component of the selected remedy is appropriate in the future.

Comment 9: *Gretchen Gott, a Raymond Planning Board member, but not speaking as a planning board member, asked about institutional controls on further wells being drilled and “... where you’re talking about and what that means and what some of the institutional controls might mean. Would that be in terms of zoning, or what would those controls look like?”*

EPA Response: Institutional controls will be required in limited areas surrounding the Site to prevent the installation of any new wells which may be pumped for any purpose (e.g., drinking water). These limited areas will include Area 1 and any other areas beyond Area 1 where such groundwater pumping has the potential to hydraulically

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influence the movement of contaminated groundwater from the Site, may alter the natural attenuation conditions on the Site and/or impact the remedy selected in the 1991 ROD. One such area is the 35-lot subdivision located on Perimeter Road to the northeast of the Site and potentially the undeveloped lot(s) directly south of Windmere Drive off of Blueberry Hill Road. The form/type of these institutional controls may include one or more of the following: deed restrictions, Town ordinance and/or a Groundwater Management Zone in accordance with NHDES regulations.

Comment 10: *Kelly Thomas, a resident near the Site, wrote that: “Dick Mottolo got away scot free leaving us all as tax payers to deal with and pay for the mess that he created. To me his acts were criminal and should have been tried in a court of law as such.”*

EPA Response: EPA appreciates this commenter’s concerns. This comment relates to enforcement issues and is not a comment on the proposed cleanup plan; as such, it is not appropriate for EPA to respond to this enforcement matter as part of this responsiveness summary.

Comment 11: *The attorney representing the Gillingham Road LLC owners and developers of Riverside Estates, the 35-lot subdivision northwest of the Mottolo Site, submitted written comments on the Proposed Plan (dated September 2, 2010). This commenter wrote that: (1) the developer would consider EPA’s plan to implement institutional controls to restrict groundwater (residential wells) on the subdivision lots a de facto taking of their property, and (2) requested that EPA consider extending the water main service onto the subdivision property.*

EPA Response: EPA has responded by separate letter to the issues raised by this commenter which do not directly relate to the proposed cleanup plan. Under the Superfund law, EPA has the authority to respond to the actual or threatened release of hazardous substances at a Superfund Site. We believe the imposition of institutional controls in the situation that exists at the Mottolo Site is fully consistent with this mandate. In addition, with respect to extending the water main service to this future development, EPA’s Alternate Water Supply Guidance specifically states that EPA cannot provide for the expansion of a community’s future growth and will only correct problems within an existing system, and that “EPA does not provide specific consideration for future development (e.g., while EPA will not preclude the owner of an empty lot from extending a service connection to buildings once the property is developed, EPA will not consider the possibility of such future connections in determining the size of the mains to be installed or the water supply necessary to provide an alternate water supply).” (EPA 540/G-87/006, OSWER Directive 9355.3-03, February 1988, pages 3-7 and 3-17).

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ATTACHMENT A

**PUBLIC HEARING TRANSCRIPT
SEPTEMBER 1, 2010
TOWN OF RAYMOND, NH**

TOWN OF RAYMOND

PUBLIC HEARING

Mottolo Alternative Water Supply Proposed Superfund Site

45 Harriman Hill Road

Raymond, NH 03077

7:20 p.m.

Wednesday, September 1, 2010

Hearing Officer: Mr. Lawrence Brill,
Environmental Protection Agency

INDEXOPENING STATEMENT:Page

By Mr. Brill

3

AUDIENCE

Joyce Wood

5

Christopher Rose

6

John Barnes

7

Richard Tellier

8

Gretchen Gott

9

Claire Gurley

9

Stephen Landau

10

Joshua Coombs

15

William Hoitt

17

1 HEARING OFFICER: Good evening. I'll be
2 serving as a hearing officer for tonight's proceeding,
3 and I'd just like to take a moment to describe the
4 purpose and format of tonight's formal hearing.

5 First, the purpose of tonight's hearing
6 is to accept your oral or written comments on the
7 Proposed Alternative Water Supply for the Mottolo Pig
8 Farm Superfund Site.

9 As Mike noted earlier, the proposed plan
10 recommends installing a public water supply to 25
11 homes surrounding the Mottolo Superfund Site.

12 While we will not be responding to oral
13 comments during the formal hearing this evening, all
14 of the oral comments received tonight will be
15 responded to by EPA in writing and they'll be put into
16 a document first as a responsiveness summary. That
17 summary will be available in the town hall at EPA's
18 offices in Boston. So we'll respond to everybody's
19 comments and issues.

20 After your oral comments have been
21 recorded tonight, I will close the formal hearing. If
22 you're uncomfortable with speaking this evening in
23 front of a group but wish to submit your written

1 comments, if you have them with you just either hand
2 them to me directly or to Mike or send them by mail to
3 EPA, but no later than September 4th. That's when the
4 hearing comments end. They should go to Mike Jasinski
5 at EPA.

6 Are there any questions on the purpose
7 or format of tonight's hearing?

8 (Pause)

9 HEARING OFFICER: We'd like to start
10 with if there's any elected officials or their
11 representatives who may want to comment or make a
12 point starting first. After that we'd appreciate if
13 you raise your hand so I can call on you to speak.
14 I'll call you to make your oral statement.

15 Please, come to the front of the room,
16 stand in front of the mic so we can capture your
17 statement to put on record. When you speak, first
18 identify yourself, spell your name and your
19 relationship to the Mottolo Superfund Site.

20 So I'd like to know if there's any
21 elected officials or their representatives?

22 (Pause)

23 HEARING OFFICER: Yes, ma'am.

1 MS. WOOD: Good evening. My name's
2 Joyce Wood. I'm a selectman here in Raymond, and my
3 comments are -- represent my viewpoint. Not
4 necessarily that of the board of selectmen.

5 I'd like to start off by thanking the
6 New Hampshire DES and EPA along with the people
7 involved in this study for the work they put into it.
8 I believe the extension of the waterline is the
9 correct solution to this problem which has had
10 potential to depress property values in the area as
11 well as affect the health and safety of the
12 neighborhood residents.

13 I appreciate the fact that this is not
14 the lowest cost alternative, but it is an alternative
15 that solves more of the problem than simply putting in
16 pointless treatment, because to the extent that you
17 shut down the residential wells in that area and to
18 the extent that they were part of the cause of the
19 migration of the contaminants off the site, this
20 should reduce or minimize the chemical migration of
21 the plumes off the site.

22 So just to sum it up, I believe it is
23 the right solution. Thank you.

1 MR. ROSE: My name's Christopher Rose.
2 I'm town manager for the Town of Raymond. I also want
3 to thank EPA and DES for their work on this, including
4 holding this meeting and their efforts to reach out to
5 the people in the area are helpful in keeping people
6 informed and letting them know what's happening with
7 their properties and what happens around them.

8 Couple points I want to make: One is
9 that the residents of the town have always taken a
10 strong position in support of the waterline for the
11 point that Joyce just made. But for the following
12 point also is if there's a problem down the road with
13 additional homes, you have a solution already close
14 by.

15 We appreciate you being here. We
16 appreciate having the opportunity to provide our
17 comments.

18 And the second point I want to make is
19 we had a problem, a concern, this July with the amount
20 of water available. We had to put a watering ban on
21 within our water system. We addressed that. We're
22 continuing to address it so there won't be a problem
23 long-term, and there should not be any problem with

1 sufficient capacity to handle the homes you're talking
2 about or additional homes that might be hooked up in
3 that area.

4 Again, thank you for being here.

5 MR. BARNES: For the record I'm Jack
6 Barnes, the vice chairman of the board of selectmen in
7 Raymond. Spell the name B-a-r-n-e-s, Jr. I'm also
8 the state senator representing the Town of Raymond.

9 A name that I haven't heard thank you --
10 I've heard you guys thank, which is well deserved --
11 but Senator Sheehan was a big moving factor for the
12 people in the Town of Raymond and got this thing
13 rolling for us. I want to make sure she gets
14 mentioned and gets credit for helping this thing along
15 in a very timely fashion.

16 And I want you to know that Senator
17 Sheehan came to the board of selectmen and had some
18 conversation with us concerning this issue about two,
19 three weeks ago. And the board appreciated it; I'm
20 sure the townspeople appreciated it. First time in my
21 memory that a US senator has ever come to a select
22 board meeting in the Town of Raymond. That shows you
23 how important this issue is also to her and the

1 federalies.

2 So let's get it going and thanks for
3 listening.

4 HEARING OFFICER: Anyone else want to
5 make a comment or statement?

6 (Pause)

7 MR. TELLIER: My name's Rich Tellier,
8 T-e-l-l-i-e-r. I live at 2 Randy Lane.

9 And you said that there'd be no wells
10 drilled. I'm just wondering what happens if somebody
11 that's not getting hooked up to the waterline their
12 well goes dry at their home or their neighborhood?

13 Are you taking questions at this point
14 or just statements?

15 HEARING OFFICER: If you want the
16 question answered for the record, we'll answer the
17 question; and then we'll respond to it in the formal
18 record. We will be around afterwards to answer
19 questions; but for the record, this is just the
20 record. We can't answer questions as part of this
21 hearing.

22 MR. TELLIER: I would like it to be in
23 the record.

1 HEARING OFFICER: That's fine.

2 MS. GOTT: My name's Gretchen Gott,
3 G-o-t-t, and I am a planning board member; but I'm not
4 speaking as a planning board member, specifically.
5 Obviously I have interest.

6 The question I have is that I heard --
7 and I only heard part of it -- talk about
8 institutional controls on the further wells being
9 drilled, and I'm wondering what that means. What kind
10 of -- where you're talking about and what that means
11 and what some of the institutional controls might
12 mean. Would that be in terms of zoning, or what would
13 those controls look like?

14 Thank you.

15 HEARING OFFICER: I can't answer any
16 questions.

17 Anyone else? Feel free.

18 (Pause)

19 MS. GURLEY: Hello.. I'm Claire Gurley
20 on 48 Blueberry Hill Road in Raymond. I'm on the
21 corner of a little tiny red strip at the site
22 (INAUDIBLE).

23 HEARING OFFICER: Could you spell your

1 name for us, please?

2 MS. GURLEY: G-u-r-l-e-y.

3 My father owns a huge lot between
4 section one, and he is looking for water testing too
5 now because I've introduced him to all this stuff. He
6 hasn't been tested yet. I want to know why our water
7 levels of arsenic went up after you guys worked at the
8 site. It went from 81.4 up to 94.1. We're told not
9 to drink the water.

10 We've been paying taxes since 1987. My
11 father's been here since 1963. We deserve some water
12 there.

13 Thank you.

14 HEARING OFFICER: Anyone else?

15 MR. LANDAU: Mr. Brill, my name's
16 Stephen Landau. I waited until the people from
17 Raymond had a chance to speak. I'm the chairman of
18 the board of selectmen in Chester, and I've spoken
19 with several of the gentlemen here.

20 I also want to thank all of you for
21 letting us know and keeping us informed, especially
22 now.

23 Our town in my mind and in the mind of

1 the selectmen is affected as well. Maybe not with the
2 necessity at the moment of providing water, but I
3 would like to read a letter into the record that I
4 thought Mr. --

5 Mike, I apologize. I'm horrible with
6 names. Mr. Jasinski.

7 MR. JASINSKI: Good.

8 MR. LANDAU: Okay. My New York accent.

9 And what I'd like to do is read this,
10 and I'd like to make a comment afterwards.

11 This letter is in response to the
12 meeting concerning the Blueberry Hill Mottolo Pig Farm
13 Site Superfund Program.

14 During the first meeting we suggested
15 that a well be drilled at the original site of
16 contamination. The purpose for drilling that well
17 would be to draw the water off at the original point
18 of contamination. It has taken 31 years for the
19 pollution to enter the wells that are going to be
20 closed by the EPA.

21 As was stated, EPA is going to be paying
22 for the building of the waterline from the Town of
23 Raymond's waterworks and placing a restriction on

1 those properties so that no other wells are drilled.
2 We believe that because the ground is filled with lead
3 in small crevasses allowing the water flow, as was
4 described by the EPA geologist at the previous
5 meeting -- Steve, I'm sorry, I didn't put your name
6 in -- that water coursing through these crevasses has
7 slowly been polluted. If these present wells are shut
8 off and the water is not drawn off at the original
9 point of contamination, then the contamination will
10 continue to spread. If the contamination continues to
11 spread, EPA, DES, and the local homeowners will be
12 forced to put in filtering systems or develop a new
13 well site for additional public water service.

14 We believe it would be cost effective to
15 drill a well and place a filtering system just one
16 time and still monitor the other sites that have not
17 as of yet been polluted. We would hope that you would
18 take this point into serious consideration and that
19 further information is needed. Please allow us the
20 opportunity to speak to it.

21 As we all know, pollution does not stop
22 at arbitrary boundaries, towns, cities, or states; and
23 it is the responsibility of all of us to protect our

1 environment for future generations.

2 And it is signed by myself for the board
3 of selectmen. They agreed with that.

4 The point as well that I wanted to
5 make -- and I guess Jack and I know each other fairly
6 well, and he's heard me converse on this on occasion.
7 I'm a student of history and I look at this, if you
8 pardon me, as a battle and as a war. We've got a
9 problem with the environment. I appreciate and I
10 wholly applaud what DES and what the EPA are doing
11 presently to try to rectify the situation.

12 71 years ago on this day a man named
13 Adolf Hitler decided to invade Poland, and we all went
14 to war. And we didn't just go in to save Poland. We
15 didn't go in to go ahead and save the Sudantand. We
16 went in and we went all the way to Germany and we went
17 to Berlin and we went to Tokyo.

18 And the point being if this is a battle
19 and this is a war, and it is because it's for the
20 future generations that we have, then what we need to
21 do, and I'm asking because I believe that the cost of
22 the well at that particular site and a filtering
23 system, in addition to what you've already expressed,

1 that cost will not be that much. And I and our board
2 believed that what that will do is will draw away the
3 water from going into the ground around, and it will
4 prevent any of us from having to worry later on.

5 Families -- there were some families
6 that came in the last time here and had spoke about
7 cancer and other things. And I realize we can't
8 necessarily attribute it to this particular site. All
9 of us together -- and the federal government
10 represents all of us -- all of us together can handle
11 a solution a lot easier than any individual, than just
12 the Town of Chester or the Town of Raymond or DES.
13 You know, this is a major problem, and I realize EPA
14 has been stuck with it for years.

15 We spoke with the town's engineer, and
16 we talked about this program, and he suggested that it
17 wasn't a bad idea. He looked at the reports that
18 you've all done, and he very much -- he said they were
19 very, very good. I wouldn't question that because I'm
20 not a geologist. And I hope I'm -- I hope none of us
21 here that sit up front that represent our people are
22 really politicians in the sense of the furthest
23 problem with the word politician.

1 I think what we're all looking now for
2 is the benefit of the people that we serve in the same
3 way that you having worked for Uncle Sam, okay, the
4 people that you serve.

5 So I would ask you -- I would implore
6 and ask please consider this; and if it's not
7 suitable, then just let us know. But maybe there is
8 another way to attack this as well as what you're
9 doing so we can get this garbage out of the ground.

10 Thank you.

11 MR. COOMBS: Hi. My name's Joshua
12 Coombs, C-o-o-m-b-s. I'm at 41 Blueberry Hill Road,
13 and I'm one of the houses in zone one that will be
14 receiving water.

15 I just wanted to go on record that I
16 think the DES and the EPA have made the correct
17 decision in extending the waterline, and I appreciate
18 that decision; but I also want to go on the record
19 that I knew about the Mottolo Site when I moved into
20 my house. We contacted the DES and we were made aware
21 of the current standings of the Mottolo Site at that
22 time. This is 2006, early 2006. We were informed
23 moving in the house.

1 Once we moved in the house we did
2 realize that we were high in arsenic in the house,
3 which we understand -- I understand as being naturally
4 occurring. I chalked it up to that. We spent a lot
5 of money on a filtration system for our home to
6 rectify that problem; and now that we're going to be
7 hooked up to city water, that water system that I paid
8 for at that time is going to be useless.

9 And in addition to that, going forward
10 we are going to incur the expense of city water. And,
11 again, I know this may sound petty on my part, but we
12 have spent a lot of money in the past; we're going to
13 spend money in the future.

14 Again, I don't think this is not the
15 right decision. That is a double negative. I think
16 this is the right decision. However, I just want to
17 go on the record saying the cost that it has cost me
18 and my family.

19 Thank you.

20 HEARING OFFICER: Anyone else? Last
21 opportunity.

22 (Pause)

23 HEARING OFFICER: Yes. Yes, sir.

1 MR. HOITT: My name's William Hoitt,
2 H-o-i-t-t. I'm also on the board of selectmen in
3 town.

4 The question I was looking to get
5 answered hopefully tonight would be the construction
6 timeline, when that might start. I know some of the
7 other board members up here have thanked everybody.
8 I'd like to do the same and thank Senator Shaheen's
9 office and everybody that's involved in this.

10 I don't mean to sound ungrateful or
11 anything, but it's -- now it's kind of like we finally
12 got to the point where we know what the problem is,
13 and now's the time to do something about it, and I
14 really -- hopefully really hope that we don't take
15 another year to get this underway and get started. I
16 know it's September and we've only got a couple more
17 months here before we have to start worrying about the
18 ground freezing and things like that. I know this has
19 to be engineered out and everything, but I would just
20 like to see what the timeline might be to come out
21 here to start this project this year and not wait
22 until next year.

23 Thank you.

1 HEARING OFFICER: Anyone else?

2 (Pause)

3 HEARING OFFICER: If not, well that
4 concludes tonight's public hearing. We want to thank
5 you for participating this evening. Please remember
6 the public comment period for the Mottolo Alternative
7 Water Supply Proposal ends Saturday, September 4th.
8 So if you have comments, submit them.

9 Thank you. Have a good evening. We'll
10 be around for a little while, too, if you want to talk
11 to us and ask questions. Thank you.

12 (Hearing concluded at 6:40 p.m.)
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C E R T I F I C A T E

I, Elaine J. Ritsema, a Certified Court Reporter and Notary Public of the State of New Hampshire, do hereby certify that the foregoing is a true and accurate transcript of my stenographic notes of the public hearing, taken at the place and on the date hereinbefore set forth.

I further certify that I am neither attorney, nor counsel for, nor related to or employed by any of the parties to the action in which this hearing was taken, and further that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

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Elaine J. Ritsema, CCR, RPR
NH Certified Court Reporter
No. 92 (RSA 331-B)

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